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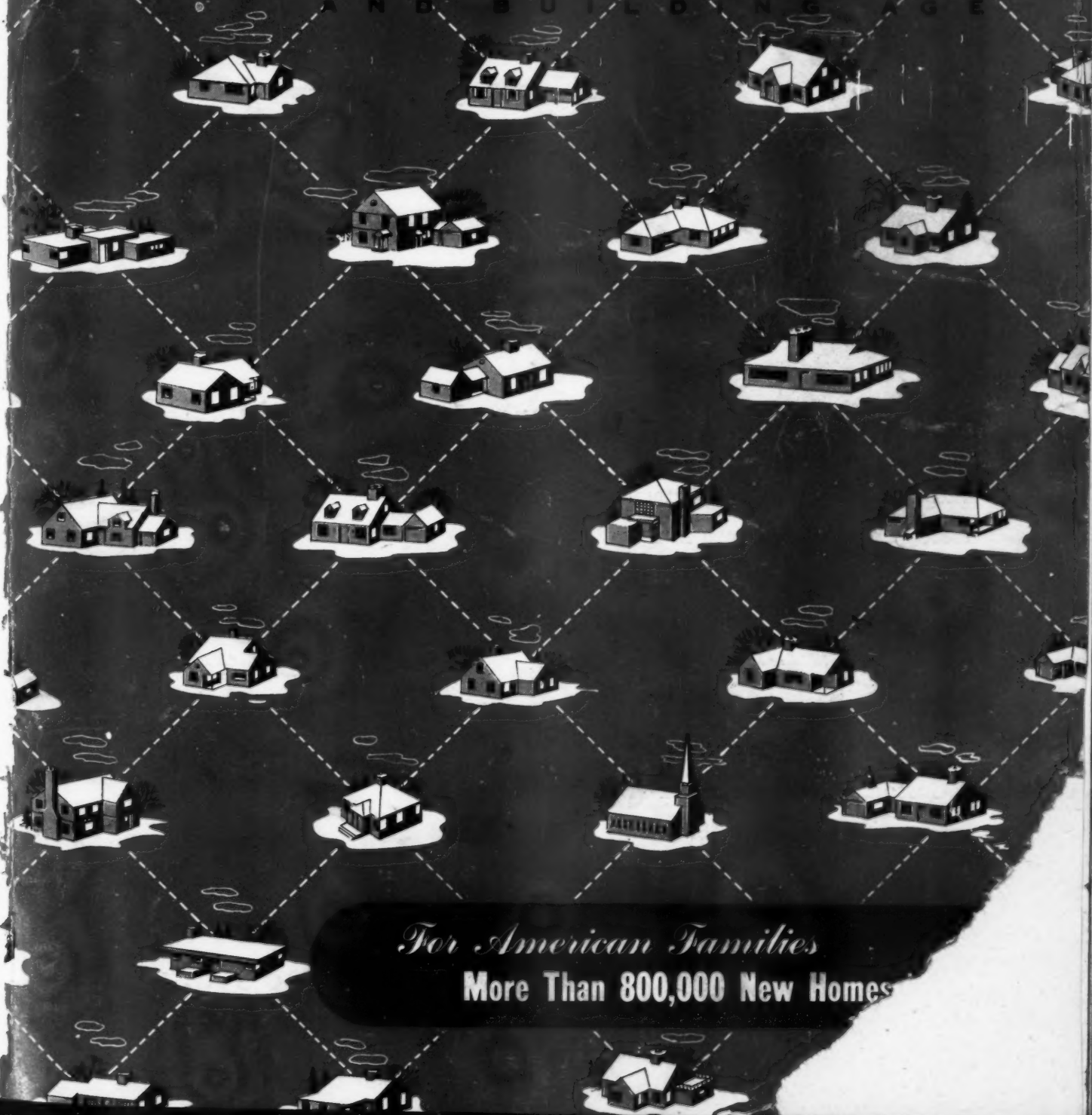
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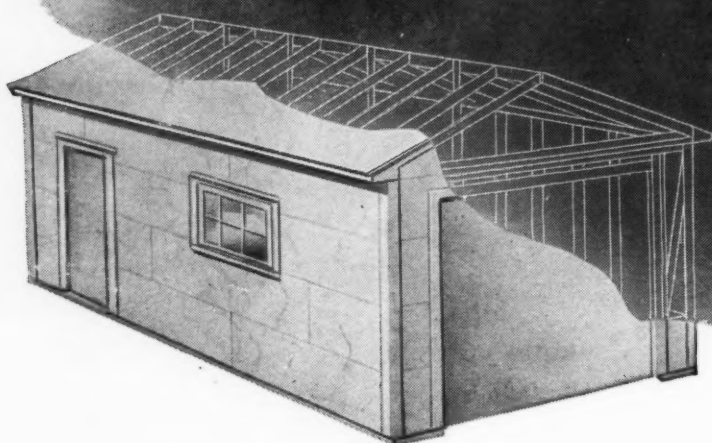
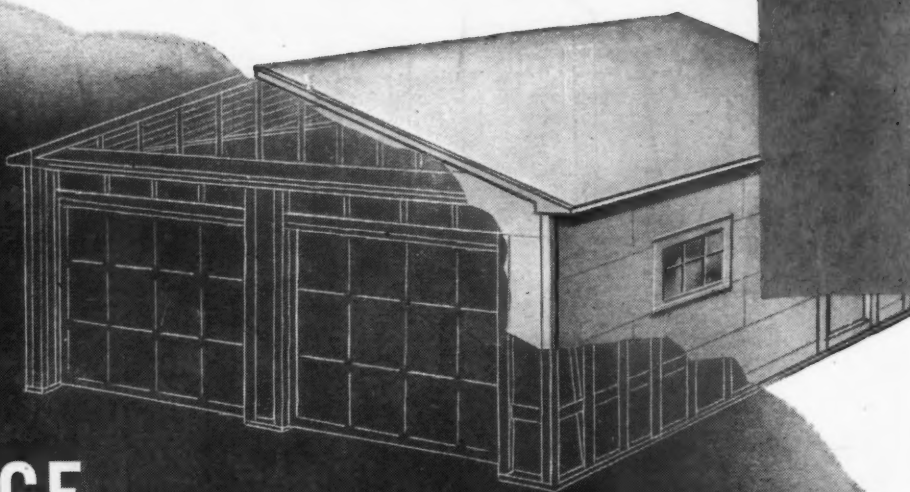
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AND BUILDING AGE



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More Than 800,000 New Homes

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X CORPORATION • CHICAGO 3, ILLINOIS

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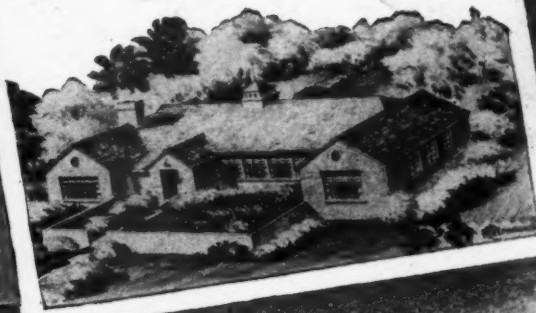
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INSIDE

A beautiful Fenestra Window that does its part in making an attractive room... the kind of room that puts extra solability into a house. Practical, too, it floods the room with sunshine and provides controlled fresh-air ventilation with its two outswinging casement leaves.

OUTSIDE

The slender lines of Fenestra Steel Casement Windows enhance architectural beauty... accentuate the trimness of today's up-to-date house. Attractive open or closed... there's no "clashing" of muntin lines when a Fenestra Casement ventilator is swung out into the breeze.



You can add the beauty of Fenestra Casements to every room in the house... for the Fenestra line of standardized casements provides a window that's *right* for every residential use. Made by craftsmen... fitted with excellent hardware... Fenestra Casements are windows

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OTHER IMPORTANT ADVANTAGES, TOO

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ILLUSTRATED above, is Factory No. 1 of the American Gas Furnace Company, Elizabeth, N. J. It originally had wood siding, badly deteriorated through the years. Now, with Reynolds Lifetime Aluminum Clapboard Siding, it is bright and clean, has important extra protection against fire, and is definitely cooler in hot weather. Furthermore, it will have all these advantages *permanently*.

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Dealers who promote one installation of this siding will find they have started an endless chain of profits. Builders and architects who specify it will enhance their reputation for being up to date and value-conscious. See Sweet's or write for detailed A. I. A. file brochure.

Reynolds Metals Company, Building Products Division, Louisville 1, Ky.

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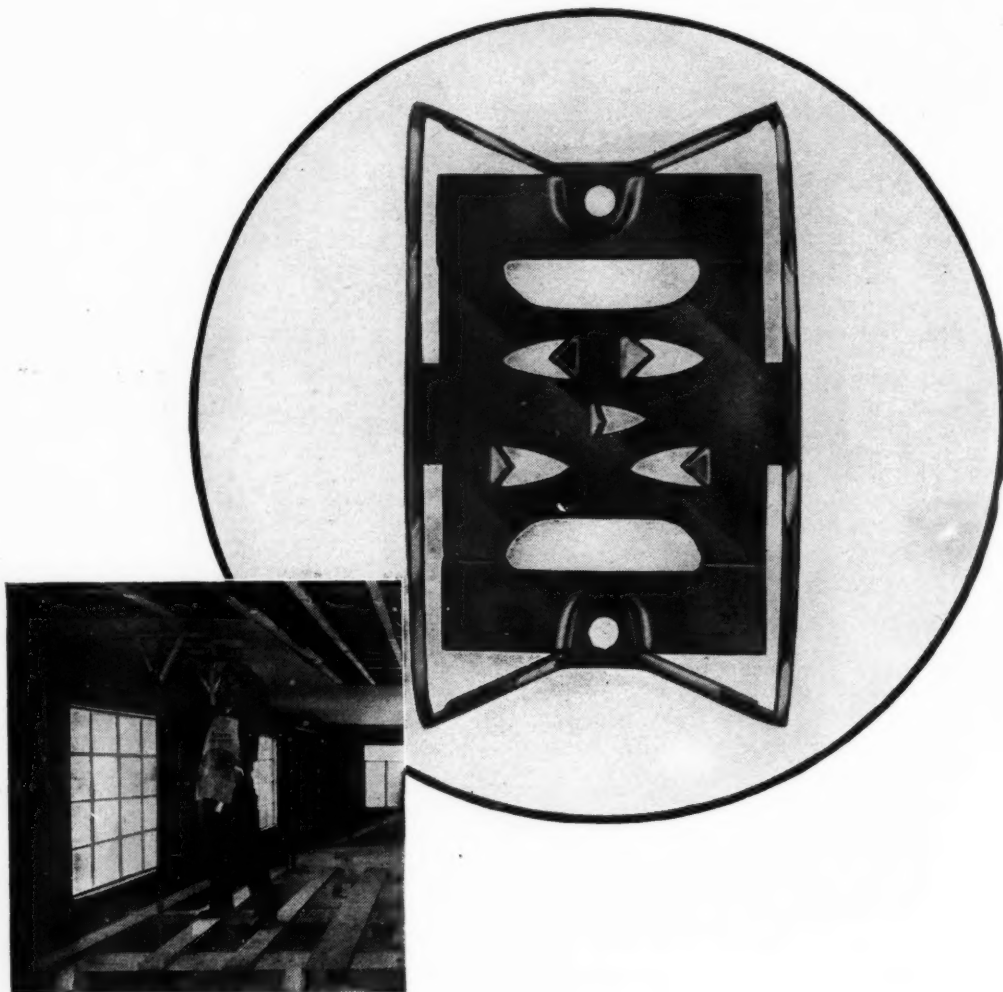
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AMERICAN BUILDER

AND BUILDING AGE

F O U N D E D — 1 8 7 9

DECEMBER

VOLUME 69

1947

NO. 12

C O N T E N T S

AMERICAN BUILDER and BUILDING AGE

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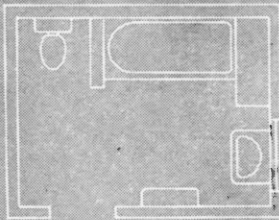
the *Criterion* bathroom

Here is the answer to the home buyer who wants a truly luxurious bathroom... here is Crane's finest.

Each piece in the Criterion Group is styled to complement the finest of homes. The careful design of every last detail... the gleaming whiteness of the finish... the finger-tip *Dial-ese* controls... all bespeak the quality that has made Crane the best-known name in plumbing.

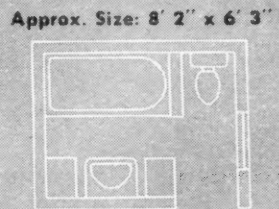
Of course, this same Crane quality carries through a wide range of bathrooms, including several groups priced for modest budgets. In kitchens, too, Crane offers a complete selection for every taste and every purse.

For home heating, your Crane Branch supplies complete systems of all types... for steam, hot water, or air... for coal, coke, oil, or gas. The new Crane line appears in condensed form in the 1947 Sweet's Builders' File. Call your Crane Branch or Wholesaler for further information.

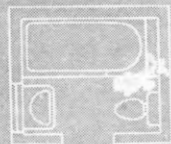


Approx. Size: 9' 10" x 6' 9"

Above is the floor plan of the bathroom shown. Of course, the Crane Criterion Group lends itself to small arrangements, as suggested in the two layouts below.



Approx. Size: 5' 6" x 5' 3"



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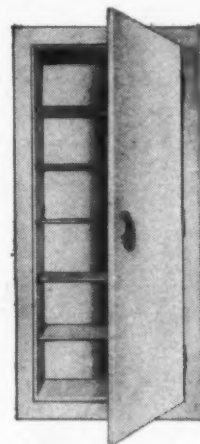
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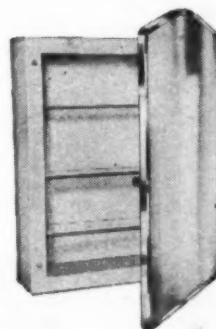


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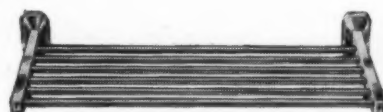
TOWEL SUPPLY CABINET

What housewife doesn't always need extra towel storage space? Here's a natural! Overall 16 $\frac{3}{4}$ " x 36 $\frac{1}{2}$ " — two depths: 6 $\frac{3}{4}$ " and 8 $\frac{3}{4}$ " — steel — white enamel — five glass shelves.



WALL CABINET FOR KITCHEN

Real sales idea is a mirrored door cabinet in the kitchen. Mirror for shiny noses — Space for small items like spices, etc. Overall 13 $\frac{1}{4}$ " x 20", 16" x 22".



MULTIPLE TOWEL RACK

Every woman will want two of these — one for the kitchen, one for the bathroom. 8 $\frac{3}{8}$ " x 25" with six bars for towels. Feature for any kitchen. You can't miss!

instantaneous **BATHROOM HEATER** **BUILT-IN....WITH MOTOR-DRIVEN FAN**

You can make a more comfortable living by making living more comfortable for your customers. That's why this compact, built-into-the-wall heater by Miami-Carey is particularly important to you. A modern electric fan type, it gives immediate heat at a flick of the switch.

Sell it for fast, early morning heat in bathroom, bedroom, breakfast nook and kitchen—for year 'round comfort that

the entire family can enjoy.

It's safe, easy to install, capacity 1200 watts per hour and carries approval of Underwriters' Laboratories, Inc.

This is just one of the many items in Miami-Carey's line which up-to-the-minute dealers have available for you in their appliance departments. Get the facts on the entire line from your dealer.

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More Room and Better Living with AMERICAN-Standard



Happy Holiday Warmth

There are no cold spots in this attractive living room, despite its big picture window. The inconspicuous new Baseboard Radiant Panels provide sun-like warmth from floor to ceiling throughout the room. Only 8 inches high, they fit snugly against the wall, look exactly like the baseboard, and can be painted any color to match the wood trim. Give full use of wall and floor space.



Cheery and Convenient

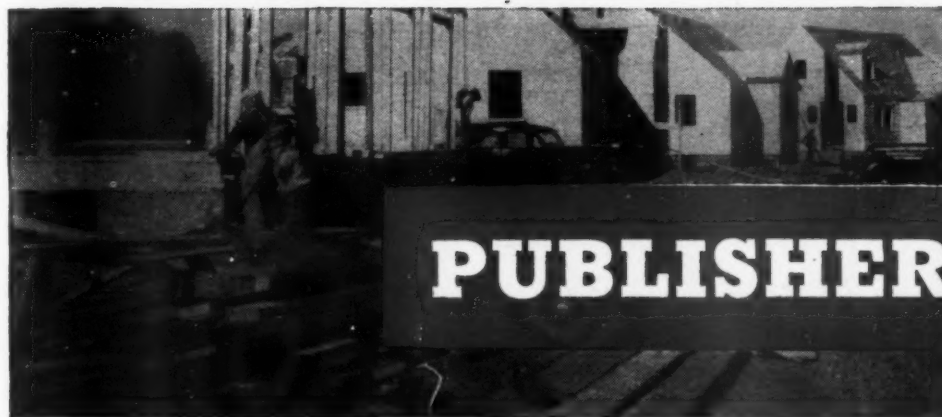
Every day's a holiday in this cleverly planned kitchen, thanks to the ease with which American-Standard's gleaming Royal Hostess Sink fits into the continuous counter-top arrangement. Designed for maximum cleanliness and convenience, this double-compartment, double-drainboard model is made in one piece of rigid cast iron finished with a heavy coating of acid-resisting enamel. In white and choice of many colors.



■ In the American-Standard line, you will find heating equipment and plumbing fixtures that are styled, designed and engineered to fit in with, and enhance, any architectural plan or decorative scheme. American-Standard Products are as fine as money can buy, yet they cost no more than others. For modernization, they can be purchased on a convenient Time Payment Plan. Contact your Heating and Plumbing Contractor for details. American Radiator & Standard Sanitary Corporation, P. O. Box 1226, Pittsburgh 30, Pennsylvania.

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PUBLISHER'S PAGE

The Real Cause of Inflation

THE inflation with which the nation is confronted, and the greater inflation with which it is threatened, illustrates most forcibly the danger of trusting politicians who, to remedy temporary bad conditions, promote policies that history shows always have had ruinous long-range effects. The existing and threatening inflation is mainly due to government policies adopted beginning in 1933 *for the expressly avowed purpose of causing inflation.*

Owing to the depression, wages, and especially prices, had declined. On the unwarranted assumption that an advance of prices promoted by artificial means would cause recovery, the government adopted policies avowedly intended to advance prices to the level of 1926. These policies included abandonment of the gold standard; an increase in the price the government paid for gold; N.R.A., which was intended especially to create monopolies that would raise industrial prices; A.A.A., which was intended to raise farm prices by reducing agricultural production; and huge government deficit spending on public works to increase employment and the demand for goods.

These measures failed before the war to cause the intended advances in prices, because they failed to increase the demand for goods. But they made it inevitable that the huge government buying, government deficits, and increase of government bonds in the banks during the war, would result in a huge increase in the amount of *currency outstanding, which consists of money plus deposits of business and individuals in the banks.* This huge increase of currency could not fail when war-time controls of wages and prices were relaxed and civilian demand for goods in short supply was released, to cause inflationary advances in prices, unless

the demand for goods was rapidly offset by increase in the production and supply of goods. But *production was curtailed* by a government postwar policy of reducing hours of work, while *demand was increased* by a government postwar policy of forcing up wages.

Such government policies of expanding currency vastly more than the increase in production and supply of goods have been the cause of inflation in every country in which they ever have been adopted in the history of the world. Business men are denounced for having "increased prices." What actually has occurred is that *government policies* have been for 14 years *depreciating the value of money* as compared with the *value of goods.* The inflation that has occurred is simply a result and measure of this depreciation of the value of money.

Since before the war, the volume of currency—i. e., money and bank deposits—has increased about 200 per cent; prices an average of about 100 per cent; total production, only perhaps 50 per cent. These figures indicate that a *further* general advance in prices can be prevented only by a reduction by some means of the amount of currency outstanding or by a large increase in the production and supply of goods, or by both. Any attempt to reduce or arrest inflation by renewal of government war-time controls of prices would be stupid and futile. The only way to remedy any evil is to attack its causes. The only sane and effective means government can use to stop the *inflation of prices* are means that will stop and reduce the *inflation of the currency* and which will stimulate production.

Samuel O. Dunn,

*Better
View . . .
Fresh Air too.*

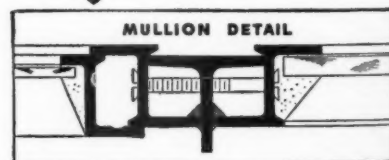


with . . .

Picture Windows **OF STEEL!**

When we say that Picture Windows of Steel give you a better view, we mean that and more too. First, the trim lines of the steel framework increase the light area, so the view from the outside has less obstruction. Yes . . . more view gets into you and, what is equally important, fresh air, too. That comes from controlled ventilation. We often put it this way: Picture Windows of Steel that breathe and are beautiful, too . . . that capture and control every stray breeze . . . that bring the outside fragrance into the home.

Here are other reasons why Picture Windows of Steel are preferred over all: They are made from easy-to-install standard Ceko casements. Gone are annoying delays in waiting for special framework. Because these windows always fit, they are easy to operate . . . no sticking, warping, or swelling . . . no fitting, planing, or weather-stripping. And here is something you will like, too. The cost is lowest of all, installed. So specify Ceko Picture Windows of Steel . . . handsome and then some. Write for free literature.



HOW TO MAKE A PICTURE WINDOW FROM CECO STOCK CASEMENTS

Here's one of many combinations. Order a Ceko stock casement 44 Fixed with muntins removed as illustrated. Combine with Ceko stock casement 1414-Left-Hand and 1414-Right-Hand by use of Ceko standard mullions. There you have a picture window all ready for glazing. This simple way of assembling reduces cost. The slender lines add beauty, let in 30% more light, too.

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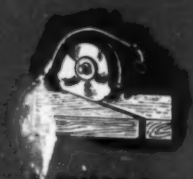
This ever-popular, low-cost DeWalt is the builders' first choice for fast, precision cutting. It's *first* in real value—*first* in safety and long-life dependability. When you put it on your building job, this DeWalt will give you "tops" in performance. It's the machine you should own to build more houses faster, better and at the lowest cost. It's a machine you can get quickly. Write for catalog. DeWalt, Inc., 112 Fountain Ave, Lancaster, Penna.

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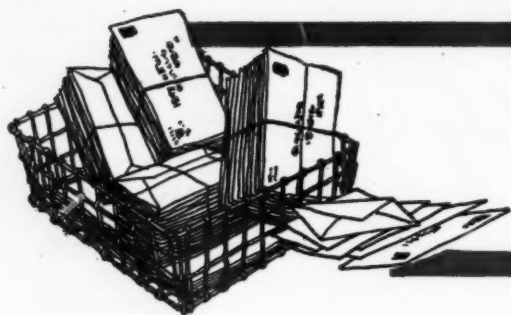


... a router!



... a rafter cutter!

ALL THESE AND MORE
IN ONE... for the
PRICE OF ONE!



Our Readers Say:

Hand and glove

To the Editor: To my complete enjoyment and surprise, your *American Builder* came to my attention recently. I have been searching for a trade journal such as yours. When I sat down to read it, it seemed to fill my needs like a hand in a glove. In the *American Builder* I have found a veritable storehouse of information about design, new products, and other subjects.—WALTER E. RUTHIG, 2114 Burt St., Saginaw, Mich.

Wecker to Pearson

To the Editor: Here are some facts recently supplied to Drew Pearson in answer to comments made in his syndicated column of October 28, regarding "a basing point formula by which the cement manufacturer in Keokuk, Iowa, sells cement to the builder in San Francisco for exactly the same price as he sells to the builder in Keokuk." Dear Mr. Pearson: There is no cement plant in Keokuk, but there is one in nearby Hannibal, Mo. The currently quoted price of cement delivered to dealers in Keokuk from Hannibal, is \$2.82 a barrel, packed in four paper sacks. We have also checked the currently quoted price of cement delivered to dealers in San Francisco from manufacturers in California, and find it to be \$2.84 a barrel. We have checked the rail freight from Hannibal to San Francisco and find it to be \$3.48 a barrel. Now, I want you to tell me how the manufacturer in Hannibal can pay \$3.48 freight a barrel to San Francisco, and still sell at the California manufacturer's price of \$2.84 a barrel. The fact is that the San Francisco market is supplied exclusively by cement manufacturers located close by. For our own part, we do not use a basing point system of pricing, as the Federal Trade Commission would have you believe. We try to make our prices by adding together a constant figure for the cement at our plant and the actual cost of freight from that plant to the place of delivery to the customer. In competition, we either meet a lower price, or forego the business. Usually, we can meet competitive prices up to about 250 miles away from our plant.—W. A. WECKER, president, Marquette Cement Manufacturing Co., Chicago, Ill.

Costs in Montana

To the Editor: I find your column, "Our Readers Say," very interesting. Recently, our representative in Congress,

Hon. W. A. DeWert, solicited from contractors and others, contributions on housing for an investigation he is making. I submitted the following, which he has duly recognized, and included in his report.

"Under normal conditions I would proceed with house building. In any period a builder must meet labor and material costs, plus taxes, insurance, repairs, management, and risk of vacancies. Today, abnormal prices for labor and materials are only part of the hindering circumstances. The major hindrance is government competition. The government has covered the campus of our state college here with various types of housing, and continues to add to them at costs impossible for local contractors to compete with. Rents for the same would be ruinous to private enterprise.

"Local contractors pay taxes that make government operations possible, and these taxes make the construction of rental housing impossible by private builders. Witness the following figures for interest and taxes on a ten-unit job built with a loan.

Interest at 5 per cent.....	\$ 4,200
County tax	2,800
Depreciation, 30 years.....	3,000
Upkeep, 2 per cent.....	1,700
Manager, 5 per cent.....	600
Federal tax	100
State tax	
City tax	
One-fifth vacancy	\$ 2,400
Total annual charges.....	\$14,800

If the property has an income of \$100 a month a unit, total income would be \$12,000. The cost, therefore, exceeds the income by \$2,800.—B. M. CREN-SHAW, Bozeman, Mont.

Flat roof houses

To the Editor: I have studied the blueprint section of the *American Builder* by Walter Anicka with great interest. I always look forward to this section to which Mr. Anicka contributes so much, and must say that I like his work very much, indeed.

I must also say, however, that I am not, and never have been very much impressed with the flat roof type of houses. I am not alone in my thinking. In 1945, when the winners of the Pittsburgh Plate Glass Co. house design contest were announced, over 50 per cent of the contestants were found to be registered architects, and the greater part of the houses submitted were of the flat roof

type. In the awarding jury's report was this statement: "To the jury, it seemed that entirely too many were of such inferior quality as to suggest a discouraging outlook for G.I. Joe's postwar home. Although almost half of the designs came from registered architects, who should be presumed to do good architecture, there was a pronounced lack of good taste and sound realism."

So I think I will stick to the conventional rather than the trend type of house, unless time proves me to be wrong.—C. K. CARVER, builder, 610 E. Tulare Ave., Visalia, Calif.

Bureau red tape

To the Editor: I spend many hours keeping records, making out reports, and doing other chores to satisfy the bureaus, and for one employee—my son. I believe that more people would get jobs if there were not so much red tape involved in hiring them. There are many unemployed, and with all this bureaucratic red tape, just as soon as things tighten up, many will be dismissed, unless hiring help is made easier. I actually was advised or cautioned by an official, when I mentioned the possibility of taking my son in as a partner in order to simplify matters, to be very careful how I did it, so as to avoid any case of evasion. In California, for some years now, a man must pass a state examination in order to secure a contracting license of any kind. That is hard on a young fellow who could join his father in business.—BUILDER.

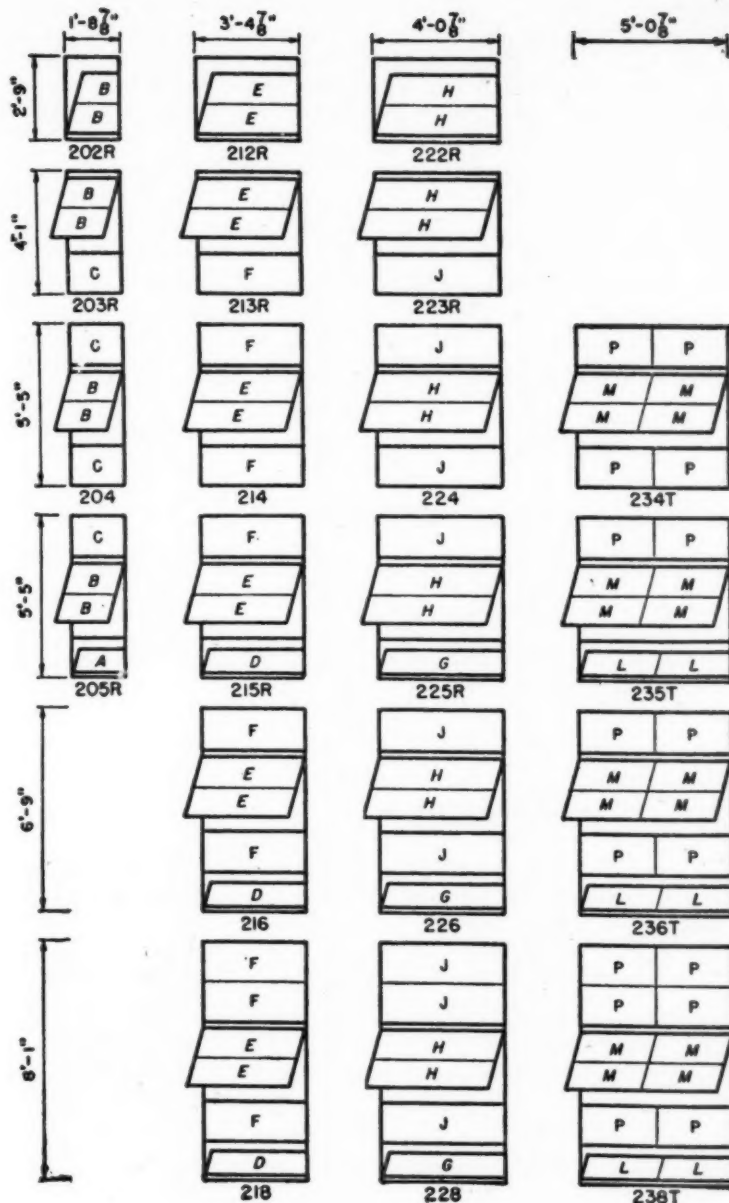
Lauds article on socialism

To the Editor: May I take this opportunity to express keen appreciation of your article, "Socialism in practice—British example." Since *American Builder* pertains to my business, I take it. It is an excellent publication. I am in specific accord with your suggestion that we be chary of aid to peoples following policies certain to perpetuate and increase their needs.

Your article should be published in labor magazines, and sent to top officials of our government, especially to representatives and senators, and to those connected with our foreign lending policy. It is too bad that this article should appear only in a magazine where so many of its readers, I am sure, are in exact accord with your way of thinking. It should be read by large numbers who are following other lines of thought.—FRANK W. PROUTY, realtor, Bank of Commerce Bldg., Portland 3, Me.

These types and sizes of Truscon ARCHITECTURAL PROJECTED STEEL WINDOWS

From Warehouse Stock!

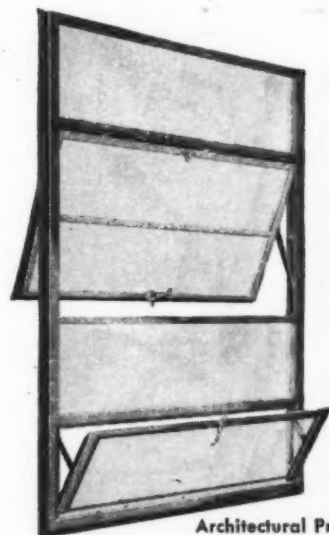


You can design these windows into your plans—and arrange to have delivery from Truscon warehouse stock at the required time.

Truscon Architectural Projected Steel Windows are designed for use in schools, offices, hospitals, commercial buildings and wherever a high quality projected window equipped with solid bronze hardware is desired. Heretofore considered as a custom built window, this quality product is now carried in local Truscon warehouse stocks.

Truscon steel screens are available from the factory, for use with these windows, which have been prepared for attachment of screens without additional field work.

Write for complete descriptive material on Truscon Architectural Projected Windows.



Architectural Projected Steel Window (Inside View)

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Coming your way ...the new Temlok

THIS railroad track is being used right now to move heavy machinery into the new Temlok® plant at Macon, Georgia. But the traffic will soon change. The incoming freight will soon be loblolly pine logs, and rolling out will be carloads of the new Temlok—headed for Temlok wholesalers and their customers, the lumber yards—and *their* customers, the builders and the American home-building public.

When the new Temlok starts through the channels of the trade, it will bring new profit opportunities for you. For the new Temlok will be light in color and as strong, efficient, and economical as any insulating board you've ever seen. And through a broad advertising program the public is going to know it well.

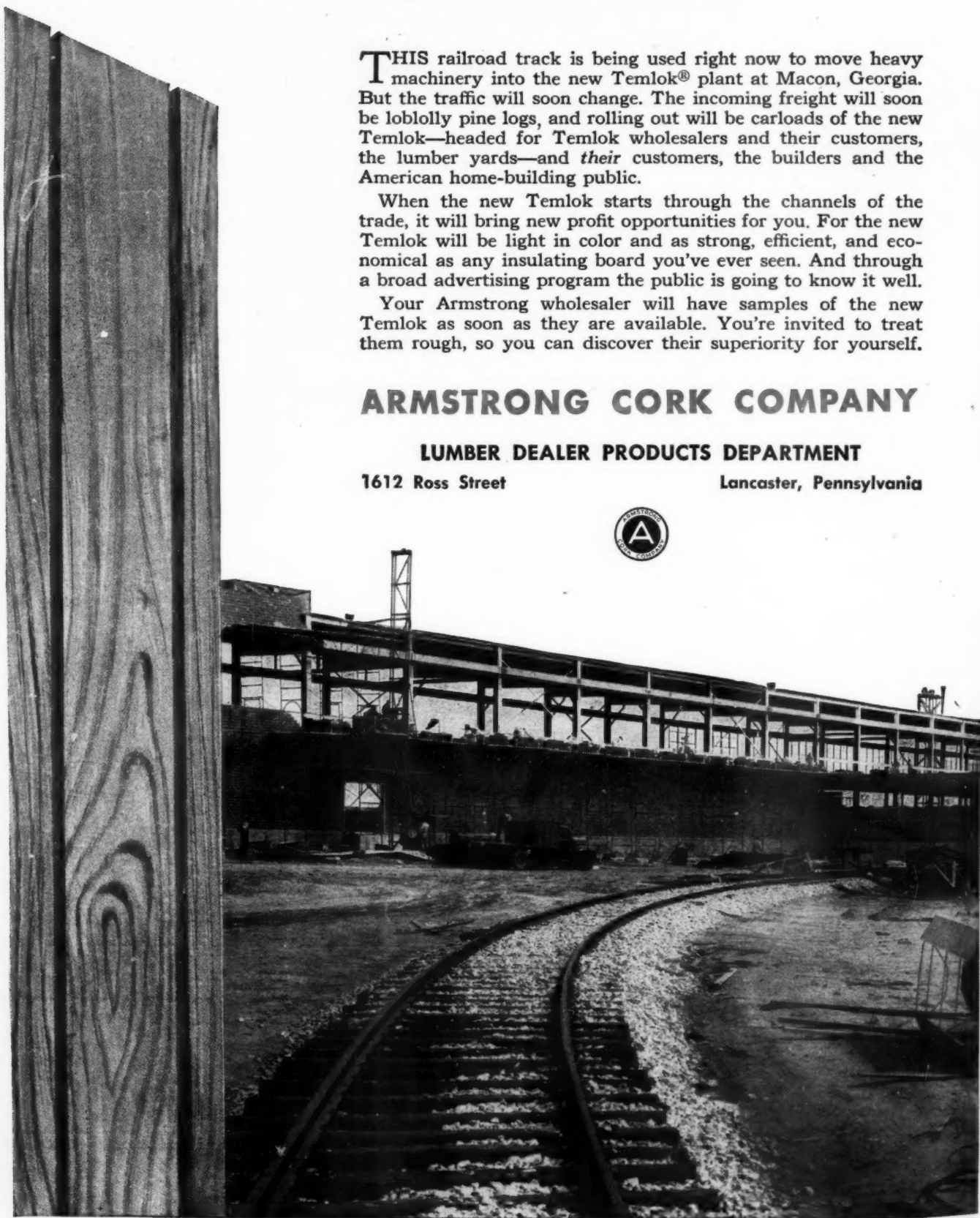
Your Armstrong wholesaler will have samples of the new Temlok as soon as they are available. You're invited to treat them rough, so you can discover their superiority for yourself.

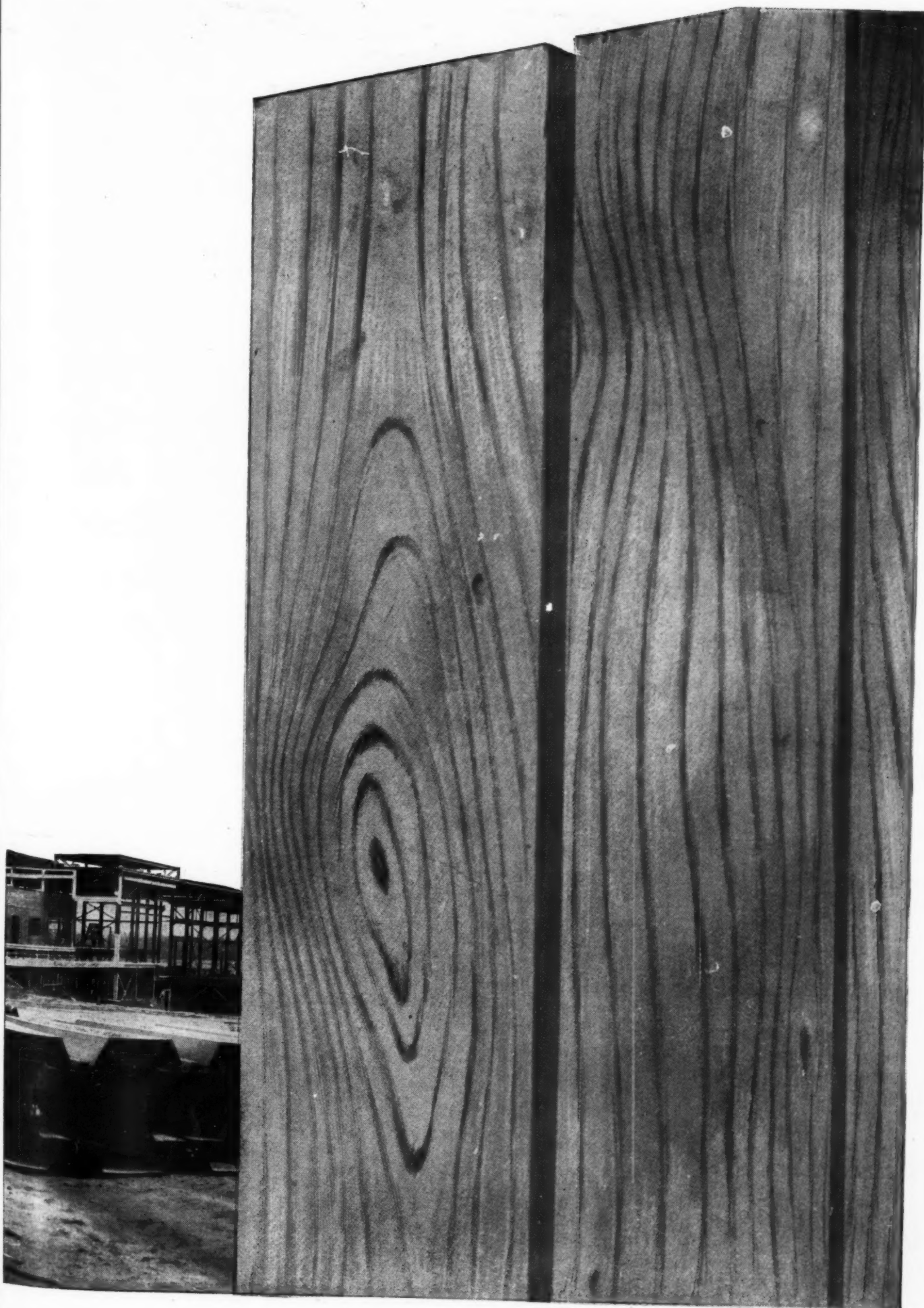
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**Will the house
you build today
be a "dog"
tomorrow?**



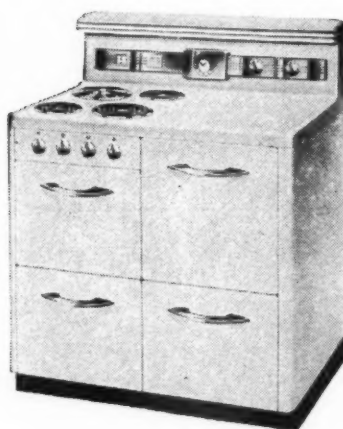
F. Rojanovsky

● Your reputation is being established in the houses you build today! To be sure they are modern, and will *stay* modern for years to come, *wire them for modern Electric Ranges!*

Survey after survey proves that Mr. & Mrs. America want homes that are up to date—homes with Electric Ranges!

An Electric Range requires only: 3-wire service entrance no smaller than two #6 and one #8 wires from the point of termination of the power supply company's wires to the distribution panel; a 60-amp. switch with overload protection and a three-wire circuit from the distribution panel to a range outlet in the kitchen.

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TO KEEP THEM MODERN...

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TRENDS

BUILDING MATERIAL — EQUIPMENT — APPLIANCES

STARTS of 88,000 new permanent homes in September represented an increase of 53 per cent over last year and exceeded the attainment of any previous month on record, except possibly the peak month in the spring of 1925, the largest housing year in our history. All records for September were broken.

Since preliminary estimates of the Bureau of Labor Statistics for other recent months have required upward revision when final figures were received, it is quite possible that the total number of dwellings started this September may be even greater than is apparent from the information received so far.

The high September level of housing activity prevailed in all regions of the country and in practically all types of communities. Notable in September were important increases in the larger cities (New York, Philadelphia and Baltimore) in some of which housing activity had fallen off in August.

It is now clear that at least 825,000 new permanent non-farm dwelling units will be started in 1947, and that about 800,000 dwelling units will be completed during the year. Data for recent months indicate that houses are being built at the rate of about 950,000 a year which is above the all-time record of 937,000 starts reached in 1925.

2.5 Million Families Doubled-Up

The Bureau of the Census Survey of Housing, made in April 1947 and just released, shows that the United States, as of that date, had 41,700,000 dwelling units. The Bureau estimates that in 2.5 million dwelling units (about 6 per cent of the total) one or more married couples were living as "subfamilies" in addition to the head of the household and his family. Of this number, 1.5 million were veteran families who were doubled-up, with civilian or other veteran families; the balance, one million doubled-up civilian families.

A certain number of families are usually doubled-up through choice or economic necessity, so it is impossible to tell how much of the current shortage is "critical" and can be relieved by the construction of new homes.

The number of marriages is at the highest rate in history; the net increase in families thus formed may be equivalent to the entire output of new homes, thus indicating that little inroad is being made on the shortage.

The shortage is undoubtedly more apparent in some areas than in others. Areas with a large increase in population since 1941 and relatively little home-

building have a greater problem than other areas which have had little increase or a decrease in population.

Increase in Home Ownership

Although some observers have always liked to refer to the United States as a nation of home owners, this has not actually been the case. The census of 1940 showed that only 44 per cent of families owned their own homes. The latest census now shows that in April, 1947, homes occupied by their owners represented about 55 per cent of all ordinary occupied dwelling units. Of course, many of the new home owners are owners by necessity since of the total dwelling units in the United States in April, 1947, less than 1 per cent were vacant units offered for rent and only three-tenths of 1 per cent were vacant and offered for sale. Excluded from these percentages are units which are winter or summer resort dwellings and a number which are not habitable.

Shortages of Material and Labor

In addition to more than 800,000 non-farm homes, the nation's builders this year will probably construct 60,000 commercial buildings including stores and warehouses, public garages, service stations, office buildings and amusement buildings, 15,000 factories, workshops and other industrial buildings and 6,000 institutional buildings comprising churches, schools and libraries, other institutions and public buildings. Add to this the materials required for 125,000 private garages and 125,000 farm homes, and there is good reason for shortages of building materials and labor.

The shortage of nails and gypsum lath is almost universal. Flooring, millwork and siding, and other lumber items are relatively more plentiful than last spring, but pipe, plumbing fixtures and other steel products are increasingly difficult to obtain.

Builders are delayed in some instances by slowness in utility installations and in connecting homes to water and sewers. Plasterers are mentioned by builders as the most difficult to obtain; others in the order named are: Bricklayers, and masons, carpenters, plumbers, tile setters, electricians, lathers and painters.

Material Costs Rise

The cost of materials still moves up. On all items, practically, costs to builders are constantly rising. This reflects increases in the BLS wholesale index which rose 37.1 per cent during the last year and climbed 1.7 per cent in October.

IT'S NOT PUPPY LOVE



Women Really Want Electric Water Heaters!

● Surveys* show that women want Electric Water Heaters because of the following advantages: (1) **SAFE** (fumeless, flameless); (2) **CLEAN** (smokeless, sootless); (3) **ADAPTABLE** (short hot water lines;

no flue or vent); (4) **TROUBLE-FREE** (as electric light); (5) **ECONOMICAL** (plenty of hot water all the time at low cost).

Be sure the homes you build offer all these advantages—install modern Electric Water Heaters.

*A NEMA survey revealed that there were three times as many women preferring Electric Water Heaters as owning them.

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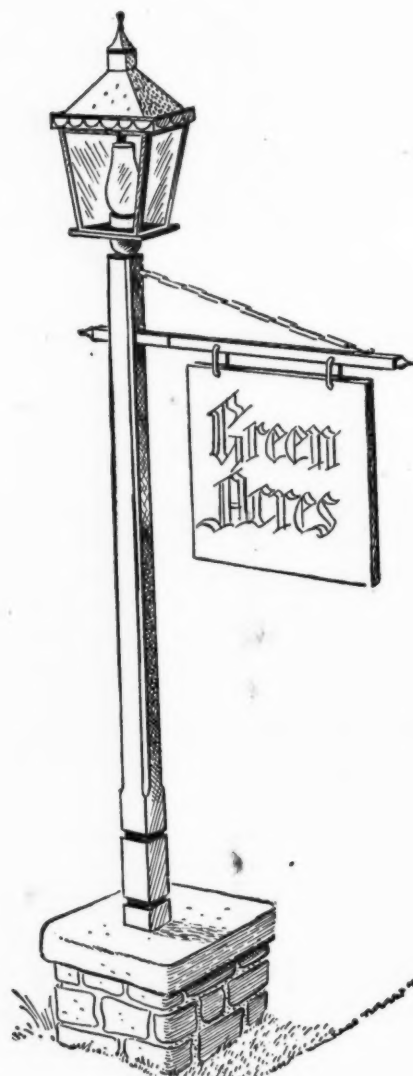
IN A HOUSE WIRED FOR AN ELECTRIC RANGE IT'S

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PEOPLE KNOW AND PREFER
POST-ADVERTISED PRODUCTS

THE SATURDAY
EVENING
Post

BRIXMENT Makes Good Workmanship EASIER!

The pictures below show an example of good workmanship — and of bad workmanship. They also explain why mortar such as Brixment makes it *easier* for the bricklayer to deliver good workmanship.

No. 2 OF A SERIES—

THE RIGHT WAY AND THE WRONG WAY—IN BED JOINTS

When absorbent brick are used, especially in hot weather, mortar should be spread out over only a few brick at a time. The brick should be placed on this mortar immediately, before it can stiffen.



The mortar should be spread over a few brick only.



So the mortar will still be soft and plastic when the brick are bedded.



Then the mortar will stick to the brick on top of it as well as to the brick below it.

BRIXMENT makes good workmanship *easier* because it holds its moisture longer than ordinary mortars, when spread out on the wall. This enables the bricklayer to properly bed the brick before the mortar has stiffened too much.

Brixment mortar has greater plasticity, higher water-retaining capacity and bonding quality, greater resistance to freezing and thawing, and freedom from efflorescence. Because of this combination of advantages, Brixment is the leading masonry cement on the market.

LOUISVILLE CEMENT COMPANY
Incorporated

LOUISVILLE, KENTUCKY

If the mortar is spread out too far, or if any delay occurs between spreading the mortar and placing the brick, the mortar will be sucked dry and will not stick to the brick placed on top of it.



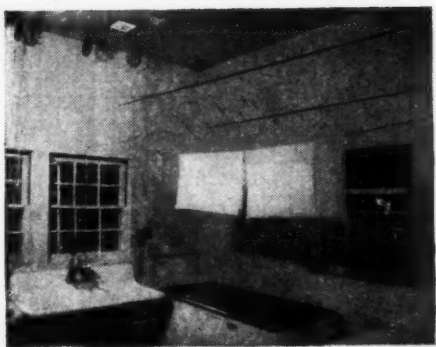
Mortar for this bed joint was spread out on the wall too far.



So the mortar dried out too much before the next course of brick was placed on top of it.



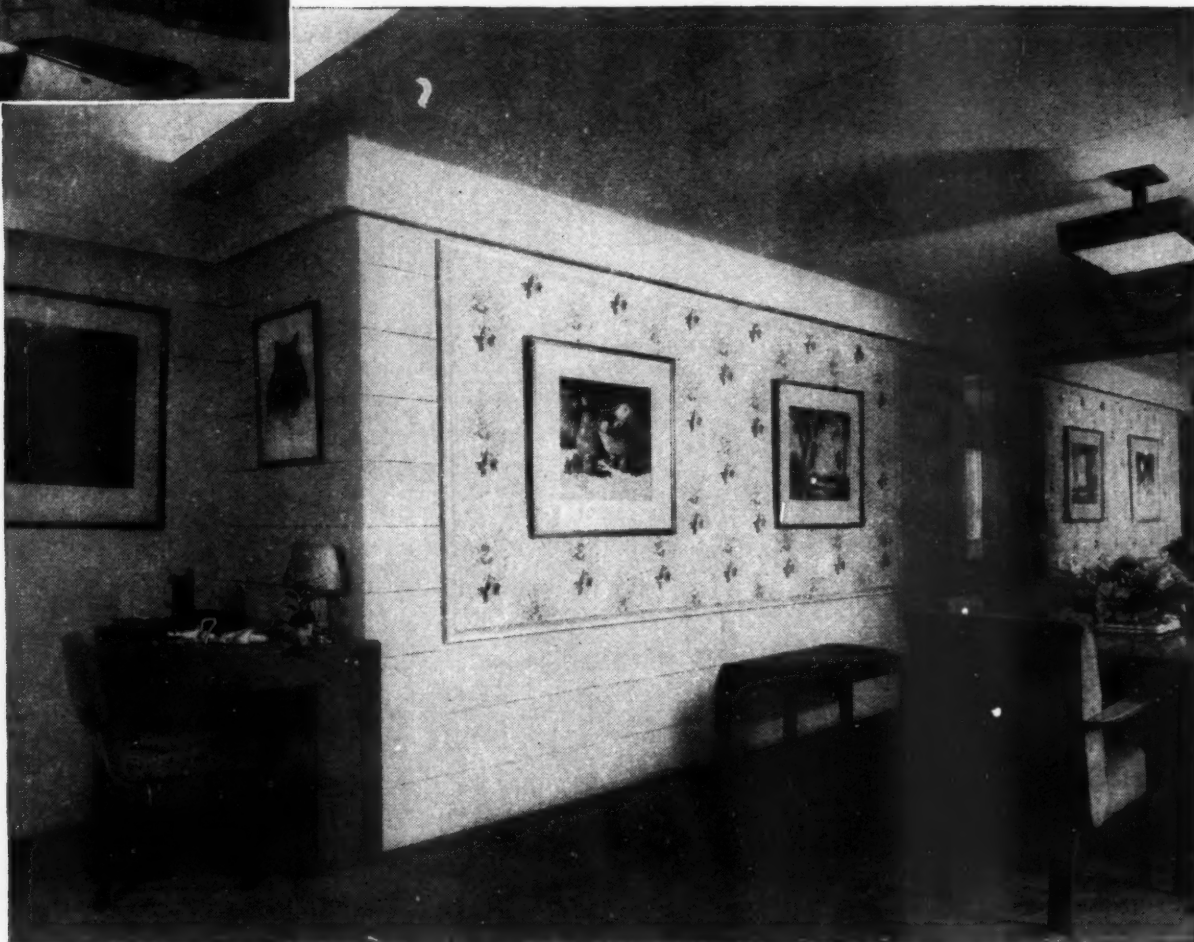
Therefore the mortar did not stick to the top brick. A good bond was not secured.



Left: Spacious laundry room, with smooth, attractive plywood walls, canvased and painted.

Below: Renovated breakfast room, with $\frac{3}{8}$ " plywood on the ceiling and on the walls—the latter with wallpaper applied over a felt backing.

Modernized with Plywood ...in 1940



"Present Condition Excellent,"—says Architect Whitney R. Smith

**"... as good as the
day the job was
completed"**

PLYWOOD'S MANY ADVANTAGES KEEP DEMANDS GREATER THAN PRESENT SUPPLY

Douglas fir plywood production is greater now than in prewar years. Today's demand, however, is unprecedented—and raw material availability is the controlling factor in obtaining higher output. This uneven demand-supply ratio naturally means that plywood may not always be readily obtainable at any given time and place. Keep in touch with your regular source of supply as to price and delivery information. For technical data, write the Douglas Fir Plywood Association, Tacoma 2, Washington.

THIS attractive remodeling job was completed in 1940—with Douglas fir plywood playing a major role in the work. Architect Whitney R. Smith of Pasadena, California, says: "Douglas fir plywood was specified for rigid sub-flooring, for ceilings, walls and many interior details. The entire building is in excellent condition

today—as good as the day the job was completed. The laundry room, in particular, is almost a perfect test for plywood. Damp laundry is hung on the lines and warm air from a forced air furnace is blown through the room. I have specified both Exterior-type and Interior-type plywood for many jobs—and it has always turned in a fine performance record."

Douglas Fir PLYWOOD

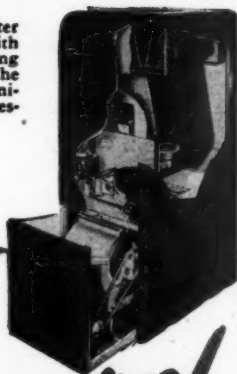
LARGE, LIGHT, STRONG

*Real
Wood*
Panels



The new Mueller Climatrol Type 209 Winter Air Conditioner is a compact vertical unit with the blower assembly mounted in a ball-bearing Roll-a-Drawer below the heat exchanger. The heat exchanger is streamlined to provide uniform distribution of air, minimum static pressure, and high rate of heat transfer.

NEW



Mueller Climatrol Type 209 Oil-Fired Winter Air Conditioner

**gives your clients unique features
for extra convenience and economy**



You can mark up another "first" for Mueller Climatrol: The Roll-a-Drawer — a service unit (patent applied for) which mounts the entire blower, motor, and drive assembly on ball-bearing rollers, so that it is completely accessible for adjustment and servicing, with a flick of the wrist.

The all-welded heavy steel heat exchanger is thermodynamically designed, has *no internal baffles* to cause strains or noises, is electric-arc welded throughout, with all passageways *easily cleanable* from the front access panel.

The Type 209 Mueller Climatrol is available in three sizes, with vaporizing or pressure atomiz-

ing oil burner, and is shipped from the factory in a completely assembled package. Compact in size, it easily goes through any normal closet door. Filters may be installed in the bottom, either side, or the rear of the handsome, green cabinet.

The Type 209 Mueller Climatrol sells itself to your clients and keeps them sold, by delivering the true indoor comfort of "climate control."

It really pays to recommend the Type 209 . . . it delivers the indoor comfort your clients want in their new homes! Write for complete information, L. J. Mueller Furnace Company, 2016 West Oklahoma Avenue, Milwaukee 7, Wisconsin.

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to help you build
Engineered Homes in
BRICK and TILE

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Here's a **NEW PLAN BOOK** of 6 attractive, small brick homes that will help you meet the demand. These plans show brick and tile adaptations for Engineered Homes.

Each plan is based on modular coordination to save time, labor, materials and money in the finished house. Each home has been designed by A. Gordon Lorimer, a foremost architect in the development of modular coordination and the Engineered Home.

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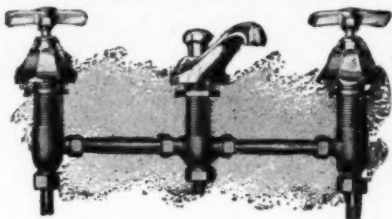
(Company and type of business)

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Salter MASTERPIECE LAVATORY FIXTURES add distinction on every Installation

671 right—Masterpiece Center-Set Lavatory Fixture for 4" center openings with code spout having anti-splash attachment. Complete with the new easy to install, Salter snap-lock pop-up waste. The graceful appearance of this fixture is accented with metal Art Line handles and all exposed parts are polished chrome finish. Long life "EZE" close valve construction assures years of trouble free service. One piece specification ingot body complete with $\frac{1}{2}$ " I. P. S. shanks, $\frac{1}{4}$ " I. P. S. tailpieces, tailpiece nuts and lock nuts. $1\frac{1}{4}$ "x4" waste tailpipe.

670 Same as 671 less pop up waste but with bead chain and hard rubber stopper.



367 above—Masterpiece Lavatory Fixture has 12" three piece body with copper tube valve connections which are easily adjustable to fit 3 opening lavatories with holes in line or offset. Four arm metal indexed handles, code spout and new, easy to install, snaplock pop-up waste. All exposed parts are polished chrome finish. Renewable "EZE" close seats with inverted stuffing box valve construction.



371—Masterpiece Lavatory Fixture with Art-Design indexed handles and complete with snap-lock pop-up waste. Long life "EZE" close valve construction. For lavatories with 4" center openings. $\frac{1}{2}$ " I. P. S. shanks, $\frac{1}{4}$ " I. P. S. tailpieces, with tailpiece nuts and lock nuts.

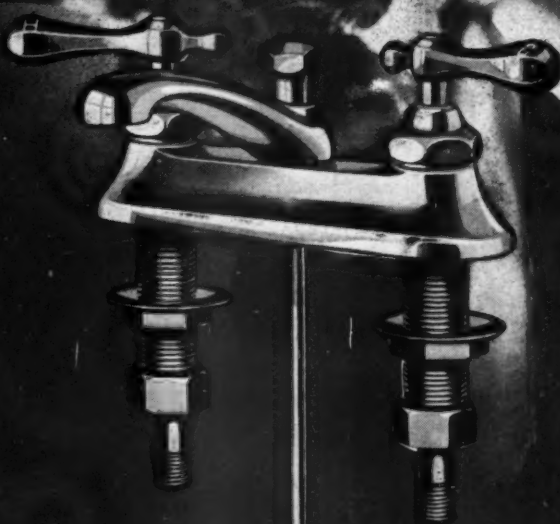


258D above—Regular Code Pattern Lavatory Faucet with four arm metal handle, snap-on index. Polished chrome finish.

458 left—Two Piece Basin Plug with 2" flanged top, bevelled edge. Complete with bead chain, hard rubber stopper and washer. 17 gauge chrome plated 5" brass tailpiece.

COMING SOON a new line of faucets to tickle your sales.

*Beautiful in
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AND UNEXCELLED FOR
"EZE" CLOSE SERVICE



For adding that extra touch of appearance and distinction to any lavatory installation, thousands of plumbers prefer to install Salter Masterpiece Fixtures. A variety of patterns including the 4" center-set fixture above with full code spout, also adjustable three piece fixtures on 12" centers, makes it possible to please every customers' individual tastes. The plumber also knows that the improved Salter snap-lock pop-up waste with its fool-proof positive action is unparalleled for easy, time saving installation. All patterns are also available less waste but with bead chain and stopper. If you are not already familiar with the variety of available lavatory fixtures, faucets, drains etc., ask your plumbing jobber about them without further delay. He will also acquaint you with the many other exclusive Salter fixtures for the bath, kitchen and laundry. You will quickly see why Salter "Masterpieces in Brass" are today's quality fixture line.

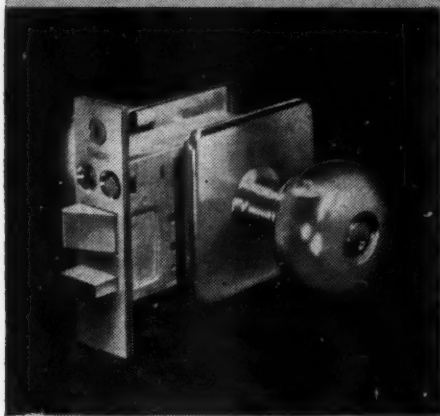
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SECURITY—The Integralock is a factory-assembled cylinder lock, precision-made of the finest, strongest materials.

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News, Views
and Comments

On and Off the Record

PRICE CONTROLS—Re-application of price controls to building materials probably will not come up at the special session, probably will come up, and may be a hot issue in the regular 1948 session of Congress.

EDWARD R. CARR—The NAHB president said recently, "By demanding an arbitrary down payment, many lenders are seriously retarding the fulfillment of the G.I. Bill of Rights. It seems to me that the action of the Congress was a promise on the part of the people to give these boys 100 per cent financing. I think this promise should be kept, even if some change in the legislation is required to make such action effective".

AIRPARKS—Differences of opinion develop with regard to their location. Ed Carr concludes, "That airport investors and operators would gain in many ways by moving to outlying sites and buying generous acreage—not the least of which would be increased good will of the public in general". On the other hand, Lowell G. Swenson, National Aeronautic Association, says that "private planes are becoming quieter, and that airports should be adjacent to residential areas", and J. Burrows Johnson, New Orleans real estate appraiser, states emphatically that, "while private airports should be adjacent to the homes of those who use them, the commercial airport should be in outlying locations".

COMMERCIAL AIRPORTS—The people who live near the big ones in large cities also disagree. Some claim that if it were possible to move, they would get away fast. They can't sleep, and have no peace and quiet while awake. Others say you get used to them, just as you do if you live adjacent to a busy highway or railroad.

THE ANSWER—For safety and economic reasons, the answer presently appears to be to locate commercial airports remote from metropolitan centers, and build elevated, non-stop highways between. Highway costs are high, but so are city land and taxes.

NAREB—This national association of realtors expected at its convention to include in official policy, decontrol of rents on February 29, 1948; a five-year program of construction of new residential units through an income tax exemption provision; amendment to 16th Amend-

ment of the Constitution providing a limitation on the federal government's taxing powers.

LOW COST HOUSING—Real low cost housing calls for a new concept, carefully engineered, elementary shelter, safe and sanitary, instead of the full-rigged home. Home builders, if they are to provide such low cost housing, will have to add a new activity—shelter building.

HOUSING BILLS—Eighteen of them are due to come up for action at the second session of the 80th Congress. They include everything up or down from the T-E-W bill to one calling for federal subsidies to states for housing, another which creates subsidy loans for housing, and one outrightly asking for one billion dollars for public housing.

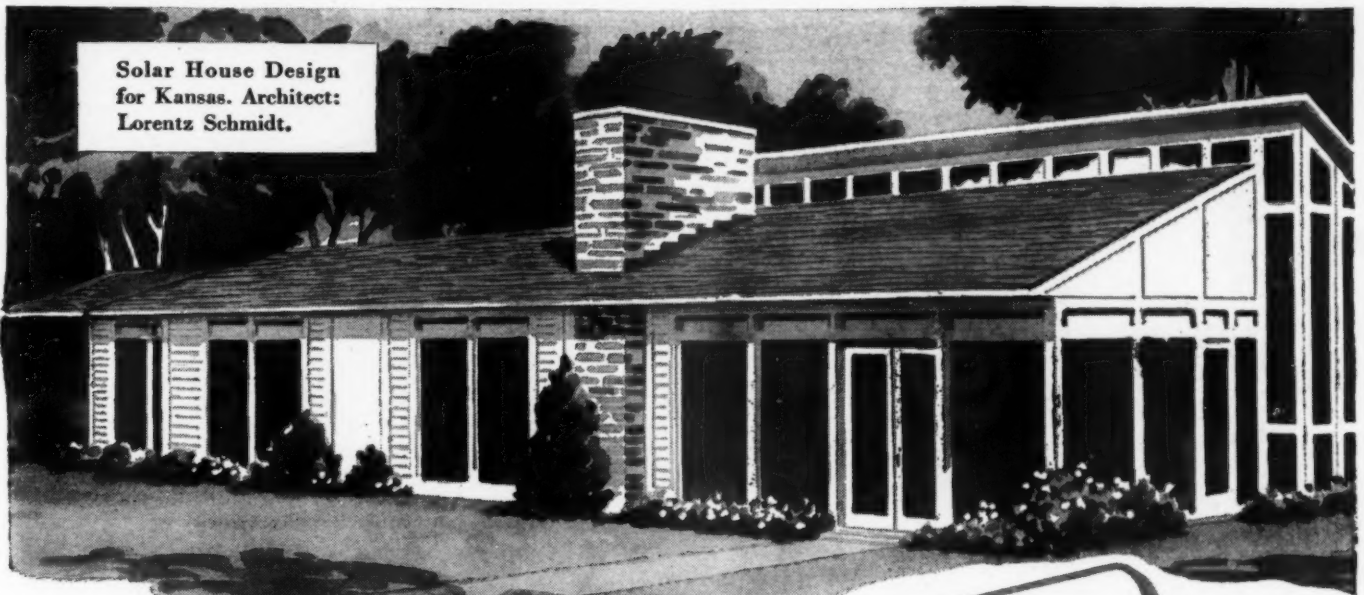
INVESTIGATING HOUSING—The joint congressional committee to investigate housing seems to be getting nowhere fast, if the investigation in Chicago is typical of what is happening in other cities.

CONGRESSMAN GAMBLE—He seems to be bored with the investigations, is chairman of the joint committee, appears to view the whole thing as a lot of waste motion. That is what most observers think it is.

SENATOR MCCARTHY—The junior Senator from Wisconsin is vice-chairman of the investigating committee. Approaches the job as if he had little interest in anything but making industry men confess sins, and promise to be good boys hereafter. Up to date, no industry men have felt that they are sinners—thus no confessions, in spite of some efforts by McCarthy to extract them.

DISTRIBUTION—Senator McCarthy evinced little interest in the proceedings in Chicago, except where there appeared to be a chance to prove malpractice in distribution. He seemed only mildly interested in charges of restrictive practices on the part of various building trades unions, but did spend an entire morning talking to union leaders.

LEGISLATION—The announced purpose of the Gamble-McCarthy Committee is to take its findings to Washington, and draft legislation to present at the next regular session of Congress.



Key to More Profits

Schick Razor National Contest, November 10 to December 13, presents a First Prize that will appeal to millions...

...an L·O·F SOLAR HOUSE

WHY did Schick choose a SOLAR HOUSE?

This well-known razor manufacturer wanted the greatest possible number of entries in its current nation-wide contest.

How could they be attracted? By offering the one thing which arouses universal interest—a home. What kind of a house? The most exciting, most talked-of type—a SOLAR HOUSE—which brings greater comfort and living satisfaction than any conventionally-styled dwelling.

What style of Solar House will the winner receive? One designed especially for his own state as shown in the new Simon & Schuster book "Your Solar House". This book, prepared with the technical assistance of Libbey-Owens-Ford, contains Solar Houses designed by 48 specially selected architects—features a Solar House de-

signed for each of the 48 states. It explains fully how the solar principle is applied to homes in all climates.

The Schick contest will further swell interest in Solar Houses. These houses not only provide an answer to buyers' resistance to prices, but mean more business for the builder and dealer promoting modern house design. You'll want to get a copy of "Your Solar House" at your book store. It will help you answer questions from prospective home owners interested in modern living. And, for a book about *Thermopane**—L·O·F's insulating windowpane that makes a Solar House practical in any climate—write Libbey-Owens-Ford Glass Company, 43127 Nicholas Building, Toledo 3, Ohio.

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PREFABRICATED COM-
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THE MODERN WINDOW
FOR MODERN HOMES

As emergency construction fills the housing shortage gap, the day when discriminating buyers can pick and choose is nearly here. You can insure greater sales appeal for the houses you put up right now by equipping them with "American Home" Metal Casements, and in doing so, assure yourself a bigger, quicker profit.

Not only do these pre-fabricated, packaged casements actually cost less installed than any other type window...their modern styling and greater convenience features give your houses greater sales appeal. For faster, lower-cost construction, for quicker sales, for better profits...install "American Home" Metal Casements, the windows that make *new* houses *modern* houses.

Stocked and sold by better Building Supply Dealers everywhere. Supply is still short, but improving. Write today for descriptive folder. Mesker Brothers, Sales Div. AB127, 4342 Geraldine, St. Louis 15, Mo.

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FOR BETTER HOMES IN BETTER TASTE

*Choose YOUR ROOF
for rain and shine*

This booklet, 24 pages,
is sent **FREE!**

You see two sides of a roof at once in this book!

Above all, a roof must be practical. But it doesn't have to be dull about it. Along with taking the weather, a roof has time to be gay.

The above book, prepared with the help of architects for the home owner, talks both good sense and good taste in roofs. On the practical side, it talks values in weather protection, fire safety, economy. Then, it urges attention to the "fair weather" side where the roof keynotes the mood or color scheme of the entire exterior. The use of color in mass, in accent . . . in harmony, in contrast . . . is discussed by color experts.

With the unmatched values offered today by Asphalt Strip Shingles (wholesale prices at 96.8%*, production at 287%, compared with 1926=100%), it will pay to examine fully their possibilities in terms of current plans.

*U. S. Bureau of Labor Statistics, July, 1947.

**CONSTRUCTION'S BIGGEST
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ASPHALT SHINGLES

ASPHALT ROOFING INDUSTRY BUREAU
Room 1702 • 2 W. 45th St. • New York 19, N. Y.
Sponsored by 28 Leading Manufacturers of
Asphalt Shingles • Roll Roofings • Sidings
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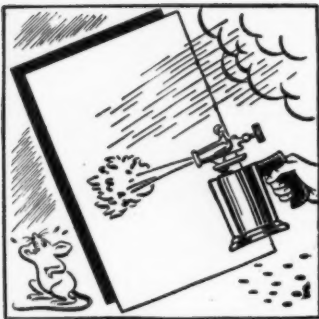
COLORFULLY BRIGHT FUNCTIONALLY RIGHT

What other material can match this combination of advantages?



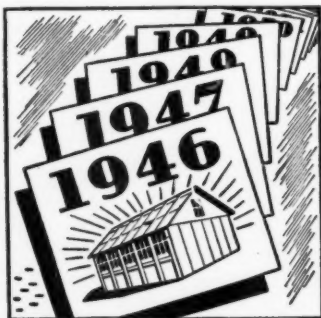
FAST COVERAGE

—big 4' x 8' sheets go up fast, require minimum framing, save man-hours. Once up, Apac lasts a lifetime.



DURABILITY

—asbestos-cement combination makes Apac resistant to fire, weather, rot, rust, rodents, termites, other building material enemies. And it grows tougher with age.



ECONOMY

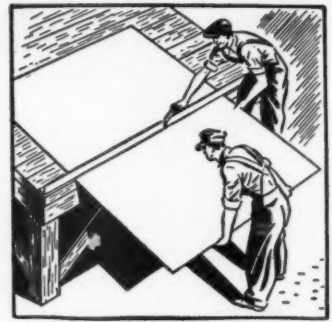
—low first cost, long maintenance-free life make Apac a leader in long-range economy—invaluable in building customer goodwill.

**Original manufacturers
of asbestos-cement roofing shingles
in this country.**



EASE OF APPLICATION

—despite Apac's rock-like toughness, it's easy to nail in place. Or it can be drilled and fastened with screws. Pre-Drilled Apac will speed this operation... at slight extra cost.



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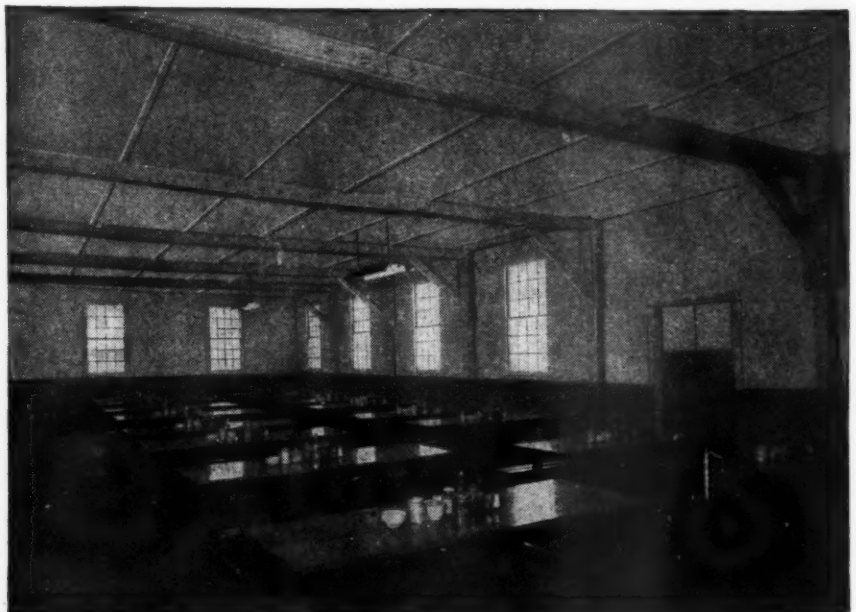
—to cut Apac to size, simply score with a sharp tool—as shown here—then snap off. Only complicated cuts require sawing.



Asbestos-cement sheets

Builders everywhere have found Apac ideal for interior panelling—walls, ceilings, partitions, bins, shaft casings—and equally good for exterior siding for many types

of structures in industry, farm and home. Get complete information from your K&M Dealer—or write us direct... we'll give your inquiries prompt attention.



Apac used as the ceiling for an industrial-type cafeteria.

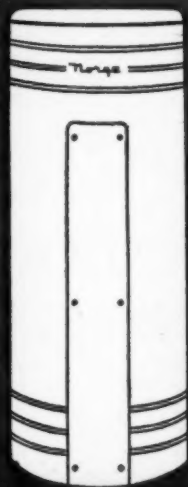
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In suggesting or recommending Norge major appliances, you are keeping your client in "good company"...his home will further reflect his good judgment, and yours. Norge Division, Borg-Warner Corporation, Detroit 26, Michigan. In Canada: Addison Industries, Ltd., Toronto, Ontario.



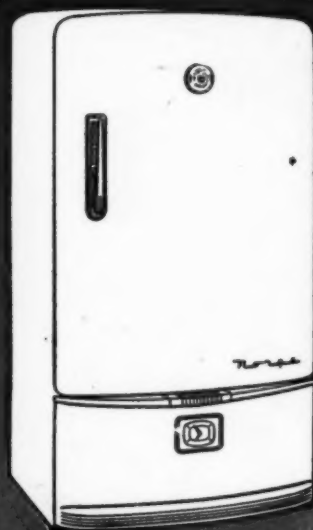
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WATER HEATERS



GAS RANGES



ELECTRIC RANGES

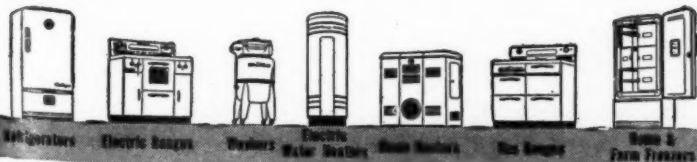


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Norge products, distributed worldwide, are typical examples of the values made possible by the American system of free enterprise.



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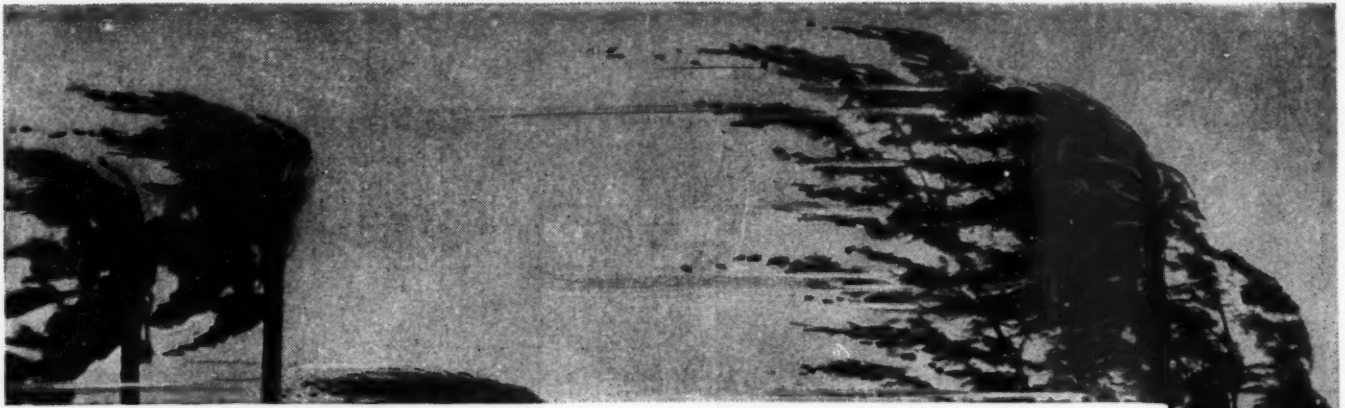
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NORGE
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120 MILE PER HOUR HURRICANE...



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"...not in one instance did we have any blown-off Tite-On Shingles or go-backs after the hurricane."



"...my Tite-On roof is intact, while the roof next to us, just completed, suffered considerable damage."



"We received several thousand calls to repair damage done by the hurricane...no complaints on Tite-On Shingle roofs."

There's a Tite-On Shingle for Each Purpose

Dubl-Coverage Tite-Ons for new roofing—they give complete double coverage over the entire roof area.

Standard Tite-Ons for re-roofing—applied right over old roofing, they give the same wind-proof protection at a savings in cost.

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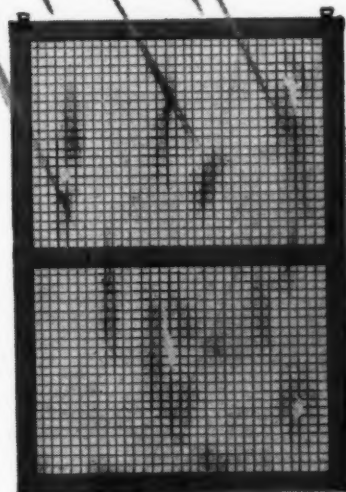
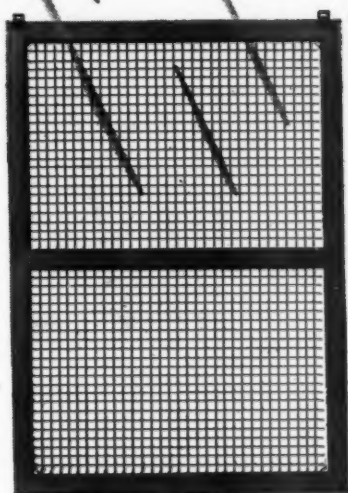
TITE-ON SHINGLES

Made only by The RUBEROID Co.
Executive Offices, 500 Fifth Avenue, New York 18, N. Y.

specify the screening that

CAN'T RUST... COSTS LESS...

LASTS LONGER



Firestone *Velon**

TINTED SCREENING

Velon eliminates the unsightly rust-staining of building exteriors under the sills, thus saving a major maintenance expense as well as preserving a clean, tidy appearance.

Velon is bleed-proof, stainless — it cannot oxidize in any weather or climate. This is only one of its many advantages, yet *Velon* costs substantially less than the best metal screening. Available in standard widths and gauges. Write now for full information on *Velon* to Firestone, Akron, Ohio.

8 big advantages

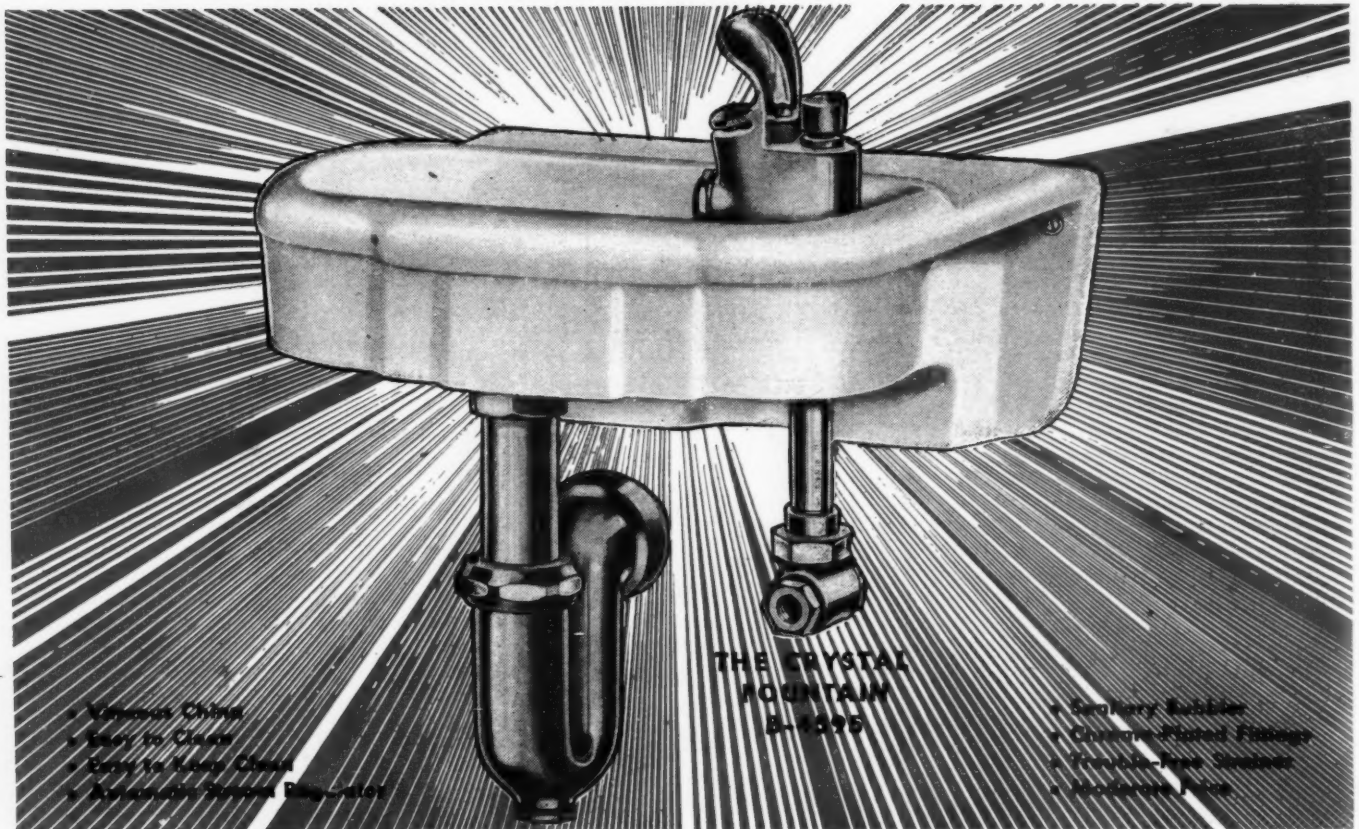
- Permanent — can't rust
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TRADE MARK

THE ELJER CRYSTAL FOUNTAIN

Chrome-Plated Fittings — with Non-Squirting Bubbler



- Vitreous China
- Easy to Clean
- Easy to Keep Clean
- Automatic Stream Regulator

THE CRYSTAL
FOUNTAIN
B-4395

- Sanitary Bubbler
- Chrome-Plated Fittings
- Trouble-Free Operation
- Moderate Price

High in quality, low in price, the attractive Eljer Vitreous China Crystal Fountain features gleaming chrome-plated fittings and a *completely automatic* regulator that maintains a steady stream height—regardless of variations in supply pressure. Water *cannot* be squirted by placing a finger over the nozzle. That's a real plus-value in schools, factories and public buildings.

When planning, building or remodeling most all types of structures, you can wisely recommend extra Eljer Crystal Fountains in convenient locations at small additional cost. No other fountain in a comparative price range offers the features of the Eljer Crystal . . . and it's a money-maker, too. *For complete information, see your Eljer Distributor or write Eljer Co., Ford City, Pennsylvania.*

SEE ELJER NATIONAL ASSOCIATION OF HOME BUILDERS EXPOSITION • CHICAGO, ILL., FEB. 22ND TO 26TH

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MONTHLY REVIEW

NEWS OF THE NATIONAL ASSOCIATION OF HOME BUILDERS AND AFFILIATED ASSOCIATIONS

Legislation and Industry Stabilization Are Topics at Fall Meeting of Directors



RODNEY LOCKWOOD of Detroit presents to directors the report of the joint meeting of committees on housing, urban redevelopment and legislation. Seated at the table, left to right, are **Luther Boggs**, NAHB secretary, Atlanta, Ga.; **Ben Wileman**, Oklahoma City, Okla.; **Joe Meyerhoff**, Baltimore, Md., and NAHB President **Edward Carr**, Washington, D. C. Mr. Meyerhoff was chairman of the joint committees

More than 100 members of the board of directors and officials of the National Association of Home Builders gathered in Washington, D. C., November 1 through 5 for their fall meeting. Members of standing committees started deliberations as early as October 31 and worked steadily through the entire scheduled meeting.

Matters of particular concern to the industry at this time were considered. These fell into two main subjects—legislation and concern over the apparent disruption of the normal channels of distribution for building materials with the consequent development of "gray" markets. Much time was spent by the legislative committee in de-

veloping a program designed to not only further insure adequate financing of home building at the present rate of production, but also to combat objectionable features of the program being advanced by advocates of public housing. Executive Vice-President **Frank Cortright** discusses in detail in his column in this Monthly Review section some of the suggested recommendations.

The seriousness of problems brought before this meeting, and the diligent work done by officials and committee members to find solutions, points up more than ever the importance of NAHB as a powerful influence for the improvement and development of the nation's home building industry.



LEADING government housing officials were guests of NAHB at a banquet Tuesday evening, November 4. Shown at the speakers table here, left to right, are **Joe Meyerhoff**; **Ray Foley**, administrator of HHFA; NAHB President **Edward Carr**, who presided; **Franklin Richards**, FHA administrator and **Joseph Merriam**, Chicago

NAHB Chicago Show to Feature Really New Building Products

Manufacturers of building materials and equipment promise many genuinely new products will be shown at the 1948 Convention and Exposition of the National Home Builders Association in February. **Paul Van Auken**, director of the show, reports some exhibitors will show products that their own distributors and salesmen have not yet seen.

All exhibit space has been sold, including the additional space provided in the Congress Hotel. There are 23 new exhibitors who did not show last year. The 1948 displays will be more animated and graphic than last year's, with emphasis on "how-to-do-it" techniques.

In contrast to many regional home shows, there will be very little of the "home appliance" type of exhibit which is of only



THE staff which is working on the 1948 NAHB show: Seated, **Paul Van Auken**, director; standing, **Doris Rades**, **Damon R. Elder** and **Lois Ritner**

moderate interest to the builder, even though it does interest the public. Virtually all manufacturers who will display what might be termed appliances will show types that currently are being installed in new homes by many builders who sell a complete "packaged home." Only 16 of the 180 spaces will be taken up with this kind of display, and all will be of genuine interest to the builder.

In a special exhibition in the Normandy Lounge of the Stevens Hotel, all leading national magazines, including *American Builder*, will set up displays showing how to build better homes. The displays will be strictly educational and based on the magazines' research among both builders and home owners.

Plan Now to Attend or Exhibit at the NAHB Convention February 22-26, 1948

Milwaukee Builders Association Sponsors "Parade of Homes" Project of 14 Houses



TOP: Builders at ground-breaking ceremonies for the "Parade of Homes." Bottom: Inspecting the new homes are Iver B. Strandberg, general chairman of the project; Frank W. Cortright, NAHB executive secretary; R. A. Rainey, president, Milwaukee Builders Assn. and Sidney F. Dwyer, president of the Wisconsin Builders Assn.

Milwaukee builders have erected 14 model homes in one development, all different in design and construction, and have advertised the project as a "Parade of Homes." Thirteen of the structures were built by members of the Milwaukee Home Builders Association.

One of the homes, designated the "Association Home," was designed by Roland Kurtz, architect, and was built by Iver B. Strandberg. Both are members of the association. It has been completely furnished by a local department store. In the other houses, basements were rented for exhibit spaces to manufacturers of building materials, mortgage and loan companies, household appliance manufacturers and the like. The

homes were open for public inspection for a month with a 50c admission charge. Veterans were admitted free on two nights of the week.

The "Association Home" sales' proceeds will go into the association's treasury. Other houses will be sold by their respective builders.

The "Parade of Homes" was the idea of R. A. Rainey, president of the Milwaukee association. It filled the need for some project sponsored solely by the association which would be entirely different from the home show each spring in which the association participates, but which is sponsored by the Milwaukee Board of Realtors instead of the builders' association.

New Albuquerque Association Is Latest Affiliate of NAHB

The recently formed Albuquerque Home Builders Association in New Mexico has applied and been accepted for membership in the National Home Builders Association. Feeling the need of an association in their section of the Southwest, several builders started the organization of the Albuquerque chapter and have been elected officers to head it. They are R. B. Waggoman, president, J. W. Hesselden, vice-president, and A. C. Krueger, secretary and treasurer.



There is no logical reason . . .

There is no logical reason to believe building costs will DROP. . . an **ADVANCE** in prices is much more likely. It's **STILL** far better to **BUY A HOME** NOW than it is to **RENT**.

HOME BUILDERS' INSTITUTE

THE Los Angeles Home Builders Institute is spending \$450 weekly to sell the public the fact that "now is the time to build or buy a home." The above reproduction of a 3-column ad is appearing in Sunday newspapers there

Chicago Gains FHA Increase In Current, Stabilized Costs

After nearly a year of effort by the Chicago Metropolitan Home Builders Association, cooperating with the Chicago FHA office, national FHA officials have been convinced that there was too great a disparity between stabilized costs and current costs in the Chicago area. The association membership on October 28 heard the good news that stabilized costs had been increased 12 per cent and current costs 2½ per cent.

This change reduces the former 15 per cent disparity between the two to about 6 per cent, making it much easier for Chicago builders to go into Title II for their loans than formerly. Costs in the Chicago area have been so high that Title VI did not permit a high enough mortgage to meet emergency demands because of its \$8,100 ceiling, and the rate at which current costs had risen above stabilized costs had made it difficult to get sufficient financing under Title II.

President Nathan Manilow of the Chicago home builders announced that assurance had been received from FHA that similar action on stabilized and current costs would be taken for the Northern Indiana area on receipt of application with proper supporting data. The association will assist in bringing this about.

Director Edward J. Kelly of the Chicago FHA office, told the association that drastic changes have been proposed in Washington to streamline procedures of the agency that have slowed down operations materially.

Columbus Association Gives Report to City Officials

In response to a request from the Columbus City Planning Commission for figures to show the progress of home building in its metropolitan area, the Columbus Home Builders Association supplied statistics to show that the area is ahead of others in Ohio in number of new homes constructed in proportion to its population.

Last year, the report stated, builders finished between 1,800 and 2,100 homes. That record was equalled in the first nine months of this year. New homes have been started at the rate of 350 to 400 a month, and completions have been running around 300 a month. Weather is now slowing down this rate.

Early in the year, it was estimated Columbus would need 5,000 new homes. Half that number will be provided this year.

The Columbus FHA office has approved 48 rental projects involving 1,166 units under Title 608. Sixty per cent of the units, involving 30 projects of that total, are in the Columbus area.

Hartford Association Officers

The Home Builders Association of Hartford, Conn., have elected officers for the coming year as follows: A. D. Horn, president; Ivor Liljedahl, vice-president; Joseph Howard, treasurer, and Don Shiveley, secretary.

Five Association Secretaries Win in NAHB's First Contest

Five cash awards were given to the same number of home builders association secretaries by NAHB as prizes in its first "Secretary of the Month" contest, reported in the national association's new publication for secretaries, "The Correlator."

Top prize winners were V. H. Dent of Seattle Master Builders and Roy Tippin of the Home Builders Association of Atlanta, each winning \$100. Grover Godfrey of



ROY TIPPIN
NAHB contest prize winner

Dallas Home Builders Association won the \$50 award. Carlos Huntington of Portland Home Builders Association and E. Clarke King of Montgomery County Builders Association, Dayton, Ohio, each captured \$25 prizes.

The contest was on how an association had improved its public relations. The award to Tippin was given for the best overall public relations program. Dent won for the national recognition that has been won by the Seattle association's newspaper advertising campaign which has increased home buying in its city.

Lansing Builders May Sponsor Quarter Section Development

Executive Secretary Howard Walsh of the Lansing Home Builders Association has been investigating a proposal that the association sponsor the development of a quarter section of land adjacent to the city. The objective would be to provide lots of at least 10,000 square feet on which to build low price homes for veterans, factory and white-collar workers.

NAHB Speakers Itinerary Keeps Officers on Move

A look at the speaking engagements of NAHB officers shows they really cover the country in contacting affiliate associations. In the last two months, despite the director's meeting in Washington, President Edward Carr spoke in New Jersey, Massachusetts, Connecticut, New York and Maryland. Frank Cortright spoke in Ohio, Wisconsin, Massachusetts and Florida. Rodney Lockwood was in Massachusetts and Luther Boggs in Florida.

Cortright's Column

By Frank W. Cortright

Executive Vice-President, National Association of Home Builders of the United States



American home builders, long wedded to free economy and private enterprise, have just taken further vital steps toward implementing their long-range housing program. The directors of the National Association of Home Builders recently completed a four-day session during which the enlarged program was approved for presentation to Congress.

In a series of two-fisted hearings, from early morning to midnight sessions, the eighteen standing committees took up assignments on such problems as slum clearance, mortgage finance, labor, public relations, chapter service, membership promotion, land planning and other matters of importance to home builders.

Perhaps the most important of all was the decision of the building association directors to urge at the forthcoming special session of Congress, convening November 17, passage of legislation providing an additional billion dollars of FHA insurance funds for veterans' housing. Unless this is done, many veterans' home building projects over the country will be delayed. This move by NAHB, expressing these needs in concrete terms, was communicated to HHFA Administrator Raymond F. Foley and FHA Commissioner Franklin Richards, both of whom attended the sessions.

The NAHB board of directors agreed that in order to build an unprecedented volume of new housing for an extended period, the private housing industry requires both a short and a long-range housing finance program. They recommended amendments to existing sections of the National Housing Act, and to the administrative rules of the FHA to accomplish that purpose. Along this line, the board of directors approved long-term extension of Title VI of the National Housing Act; approved creation of a revolving fund (of six billion authorization) under Title VI for that period, so as to avoid the need for periodic increases of authorization; approved, to make Section 203 of the National Housing Act fully effective, an amendment of that section to provide 90 per cent mortgages on the first \$10,000 of valuation; and adopted a recommendation to change the amortization periods under both Sections 603 and 203 to correspond to the maximums now provided under Section 608, which is an initial amortization of 1¼ per year, or a term of 32 years and 7 months. It was also agreed to recommend to Congress that it name a suitable government agency to discount or purchase both FHA and VA loans for the term of the program.

Practically every building problem was gone over thoroughly at the four-day meeting. These discussions ran the gamut from material shortages and need for a secondary mortgage market to a definite program for stabilizing prices of building materials and eliminating grey markets through policing by manufacturers of their own distribution systems. The program envisages at the same time the obtaining of the cooperation of labor to stop the spiraling of wage rates and hold them at their present levels; to change the standard work week to 44 hours as a stop-gap until an increased supply of labor is available; to speed up the training of additional building labor, and to urge Congress to reduce the cost of government and provide income tax reductions to accomplish these objectives.

The board of directors of the NAHB reaffirmed their stand that the production of a great volume of low-cost housing is the best answer to the T-E-W bill. In Cleveland, a high cost area, plans are well under way to construct 4,000 homes at a maximum figure of \$5,500. In Atlanta, builders will produce good, sound minimum housing at a figure less than \$3,500.

The production of such housing both for rental and sale is constantly increasing, and by this time next year, the industry will have proved that it has a very great interest in the low-cost field. As an industry, the home builders of America are fighting the socialization of their industry—a fight to preserve in this the last stronghold of Democracy the right to show enterprise as free men in a free economy.

Texas Builders Welcome Raymond Foley



FHA Administrator Raymond Foley was honored at a testimonial banquet in Dallas at the climax of a general housing conference sponsored by the Dallas mayor's housing committee. The banquet was a feature of the statewide meeting of the Texas Home Builders Association. Above, Mr. Foley is greeted on his arrival at the airport by Texas builders. Left to right: Grover Godfrey, executive vice-president of the Home Builders Association of Dallas; Mr. Foley; Ben H. Wooten, chairman of the mayor's housing committee; E. G. Neeley and R. T. Carmody of FHA; Don McGregor; Robert S. Shelburne, president, Home Builders Association of Dallas.

New Officers Are Installed By St. Louis Builders Unit

The Home Builders Association of Greater St. Louis has elected and inducted new officers and directors for next year. Rime A. Dusard is the new president.

Other officers are: John Bogdanor, first vice-president; Frank B. J. Darr, second vice-president; Elmer Bumiller, third vice-president; Harvey H. Sims, fourth vice-president; Ferd E. Gast, Secretary; Erwin Schneider, treasurer; S. Lombardi, sergeant-at-arms.

Directors are: Ben Goldberg, Harold A. Schulenberg, Ed Cassily and Joseph Leopold, representing the builder group; Vincent Welsch and Richard F. Phillips, representing the associate group; Julius Seidel; and Douglas Duncan, representing the affiliate group. Guy Palmer is office secretary.

Cleveland Has Facts Ready For Congressional Hearing

If the congressional committee investigating housing conditions was really after facts in its hearing in Cleveland, it found them available in great detail. Exact figures on housing in the Cleveland area were prepared in a five week survey sponsored by the Home Builders Association of Greater Cleveland and the Cleveland Press.

The survey was a house-to-house count of homes into which families had moved since the first of the year, including apartments, and of houses that could be completed and occupied before the year ends. It was found that about 2,500 homes were carried over from last year and completed in 1947. In addition, 7,500 brand new living units will be finished by the end of the year. These figures do not count approximately 1,000 new units being built just outside the county by Cleveland builders. The record looks like 10,000 new homes in Cleveland by the end of this year.

The association also is pushing what it

terms "The Cleveland Plan" to promote the construction of low-cost homes by private industry. The goal is to build homes in the \$5,500 to \$7,500 bracket. Basically, it is simply a challenge to all segments of the home building industry to get together and reduce costs through mass operation. A similar plan, proposed a year ago, failed to provide homes under a state veterans' emergency housing act because the act stipulated the use of discarded army barracks. The demand for low cost housing is especially great in the Cleveland area.

Minneapolis Builders Prepare Case For Congressional Committee

A special committee was appointed by the Minneapolis Contractors and Builders Association to prepare material for presentation to the joint congressional committee hearing in Minneapolis Nov. 11. Members of the association committee were L. Z. Carlson, chairman; R. E. Olson, labor; E. G. Thernell, finance; O. K. Nelson, building codes, and Peter Sundquist, materials.

Atlanta Association Entertains Governor



THE Home Builders Association of Atlanta was host to Georgia's Governor M. E. Thompson at its October meeting. New officers were elected and will be announced at the annual meeting on December 9. At the table above are B. A. Martin, builder; R. E. Mathieson, Georgia FHA director; John D. Howell, builder; Governor Thompson and Luther Boggs, national secretary of the National Home Builders Association.

ASSOCIATION SPONSORED HOME SHOW SCHEDULES

A number of home shows are being scheduled for early and late spring by several home builders associations. Those of which the Monthly Review has been notified follow:

Dallas, Texas—May 8-16. The Dallas National Home Show, sponsored by the Home Builders Association of Dallas, will be held in the General Exhibit Hall, State Fair Grounds. E. P. Lamberth is chairman of the home show committee.

Memphis, Tenn.—Annual Memphis and Mid-South Home Show sponsored by the Home Builders Association of Memphis, will be staged in the Shelby County Building at the fair grounds. An exhibition house will be one of the features.

Oklahoma City—April 10-18. The Oklahoma Home Builders Association has scheduled the Oklahoma City National Home Show for the above dates at the municipal auditorium in its home city.

San Francisco—April 7-14. The first home show to be held in northern California since before the war will be staged in San Francisco's Civic Auditorium. It is being sponsored by the Associated Home Builders of San Francisco and the San Francisco Real Estate Board. Plans call for completely furnished model homes to be erected on the display floor with gardens to break the commercial atmosphere. Ira W. Curry is managing director of the show.

Shreveport, La.—March 6-14. The Shreveport National Home Show will run for nine days in that city's municipal auditorium, according to Frank J. Zuzak, president of the Shreveport Home Builders Association. The exposition will be staged in cooperation with the Shreveport Times, local newspaper, which insures excellent publicity.



For Outside Walls —
GIVE YOUR CUSTOMERS

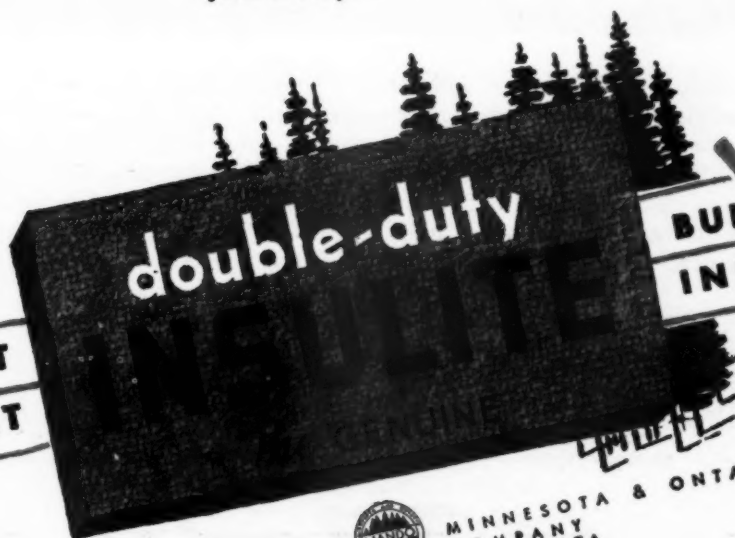
Double FOR THEIR MONEY!

Build with double-duty Insulite and do a little bragging. Insulite Sheathing does two things for the price of one: (1st) *Sheathes*; (2nd) *Insulates*. That's double service for the money—a feather in your cap. Where else in today's era of high building costs can you tell a customer, "Here's one spot at least where you get *double* for your money!"



ONE MATERIAL
Double USAGE

INSULATES AS IT
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BUILDS
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**Radiant heat
makes sense to me**



**Convection heat
makes sense to me**

Amer

You get both of these great heating principles blended into one with Modine Convector Radiation!



1

YOU GET RADIANT HEATING

See those arrows coming from the Modine Convector Panel below the window? That's *radiant heating* — mild, radiant heat in just enough quantity to offset heat loss from window areas. But that's not all...

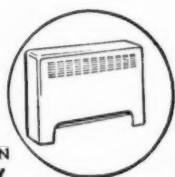


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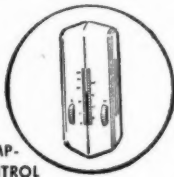
YOU GET CONVECTION HEATING

These arrows indicate *convection heating*! Hot water or steam passes through copper heating unit which draws cooler, floorline air into bottom of convector where it's warmed, rises and then passes out through grille.

Result: Dependable new hot water and steam heating comfort for moderate cost homes, apartments, commercial and institutional buildings . . . distinctive room charm and cleanliness without unsightly radiators! Modine Convector Radiation gives you a modern, blended heating system for modern living — a heating system that provides individual room control — that responds almost instantly to sensitive automatic controls — that gives you gentle air circulation without the use of moving parts that wear out—that costs less than any other form of radiation. If you're planning to build or modernize, think of Modine Convector Radiation . . . look for Modine's representative in the "Where-to-Buy-it" section of your phone book . . . or send for new, free Convector Booklet! MODINE MANUFACTURING CO., 1501 Dekoven Ave., Racine, W



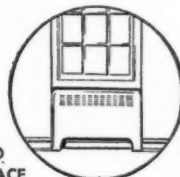
MODERN
BEAUTY



CLOSE TEMP-
ERATURE CONTROL



EASY TO
INSTALL



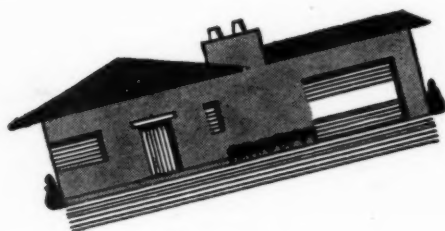
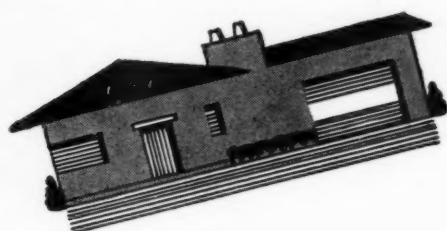
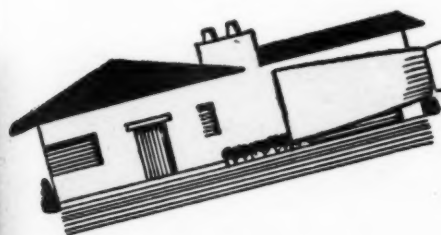
ADDS TO
LIVING SPACE



PRICED
FOR TODAY'S
HOMES AND
APARTMENTS

Modine
CONVECTOR RADIATION

The Modern "proved by use" heating method



BONDEX
gives choice
of 12 colors
(and white)

Dutch White
Old Spanish White
Oyster Shell
Antique Ivory
Carthage Cream
Adobe
Tropical Coral
Spanish Buff
Monastery Gray
Grotto Blue
Ivy Green
Brick Red

BONDEX

How can you make one low-cost housing unit seem different from another? By taking advantage of the 12 colors available in Bondex Cement Paint.

"Exterior decoration" with Bondex colors gives a prospective home owner the chance to express a preference—to feel that his house suits him personally.

BONDEX adds beauty... checks wall dampness

One Bondex treatment seals the wall surface against dampness—at the same time color and distinction are achieved.

For "mellowing" concrete and cinder block; for color-styling stucco, brick, masonry and asbestos siding, use Bondex Cement Paint—economical, easy to apply and known the world over for performance.

Basements, swimming pools and foundations also look their best when painted with Bondex.

**THE REARDON COMPANY • St. Louis 6
Chicago 9 • New York 6 • Los Angeles 21 • Montreal 1**

THE *Patented*
CEMENT PAINT

*That outsells all other
cement paints combined*

"Our own experience convinced us

BRUCE FINISHED FLOORS
rate HIGH in buyer appeal
...LOW in installed cost!"

Reports HARRY J. DURBIN

Well-known Detroit home builder



Mr. Durbin should know. His firm, long-time leader in the Detroit building industry, has used Bruce Finished Floors in more than 1200 units since 1939.

He writes: "Our records, covering eight years' experience with Bruce Finished Floors, show that elimination of the sanding and finishing operations required with old-type strip flooring has saved us an average of \$30 to \$35 and three working days per unit.

"These savings, combined with the almost unanimous enthusiasm of our buyers and tenants for the exceptional beauty and wearing qualities of the finish, have convinced us that Bruce Finished Flooring is the outstanding flooring in the market today."

All over the country, many leading operative builders like Mr. Durbin are having similar experiences. They're discovering, just as he did, that Bruce Finished Floors are best because they eliminate unnecessary costs and give the buyer a more beautiful floor with a superior, long-lasting finish.

E. L. BRUCE CO.

Memphis, Tennessee

World's Largest Maker of Hardwood Floors

**Merle W. Hogan, Architect
 for Durbin homes, writes:**

"Bruce Finished Flooring was first specified by me in 1939 for use in homes built by Harry J. Durbin. Since that time I have specified it for hundreds of clients and observed how it withstood years of use.

"I am sure Bruce Finished Flooring provides a better floor for residential use than ordinary flooring. It provides a pleasing pattern and a fine finish which is easily cleaned and maintained.

"I have also found that Bruce Finished Flooring actually costs less and saves time during construction."

Yours very truly,

MERLE W. HOGAN,
 A. I. A.



BRUCE FINISHED FLOORS

BLACK & DECKER

7" "Quick Saw"*

\$115.00

Cuts to 2 $\frac{3}{8}$ " Depth

Rips • Crosscuts • Dadoes • Angles
Grooves—in WOOD • METAL
STONE • COMPOSITIONS

A Black & Decker 7" Electric Quick-Saw is ten times faster than hand sawing. Most popular size for construction, maintenance and repair jobs. Features: quick adjustments for angle or depth of cut, easy-to-change blades and discs for variety of cuts. Operates on any standard power line or portable generator. Powered by a heavy-duty Black & Decker Universal Motor, specially built for tough sawing operations. Fully protected with guards for safe use.

*Trade Mark Reg. U. S. Pat. Off.

SWITCH from

Hand to POWER for FASTER, LOW-COST Sawing and Hammering



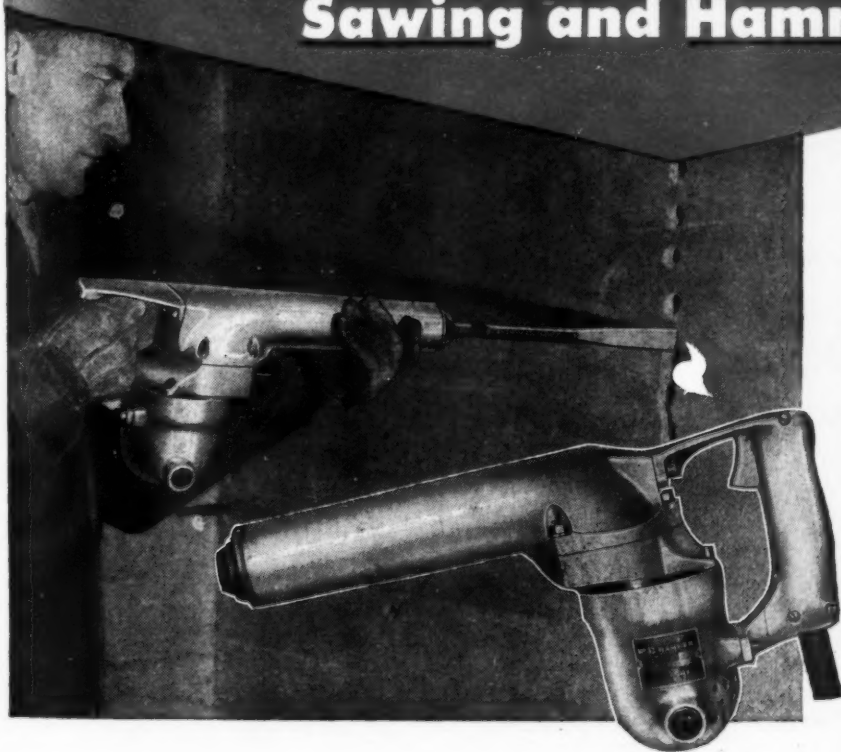
BLACK & DECKER

$\frac{3}{4}$ " ELECTRIC HAMMER

\$120.00

Drills or channels in brick, stone, concrete • Chips, cleans and scales metal • Gouges, shapes and notches timbers • Drives spikes • Seams and caulks • Tamps and vibrates concrete forms • Scuffs concrete surfaces, removes form marks.

High-speed, hard-hitting and amazingly husky, yet compact and light in weight, these Hammers are completely self-contained and operate from Standard A.C. or D.C. outlet or portable generator. Deliver thousands of sharp, positive hammer blows per minute.



ASK YOUR NEARBY Black & Decker Distributor for complete information on Saws, Hammers, Drills and the many other B & D Portable Electric Tools. Write for free catalog to: The Black & Decker Mfg. Co., 666 Pennsylvania Ave., Towson 4, Maryland.

LEADING DISTRIBUTORS



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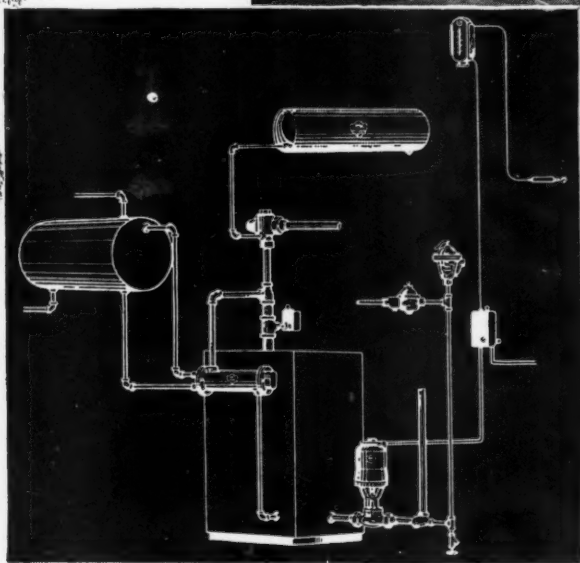
Black & Decker

PORTABLE ELECTRIC TOOLS

THRUSH

FORCED CIRCULATING FLOW CONTROL SYSTEM

COMPLETELY
AUTOMATIC



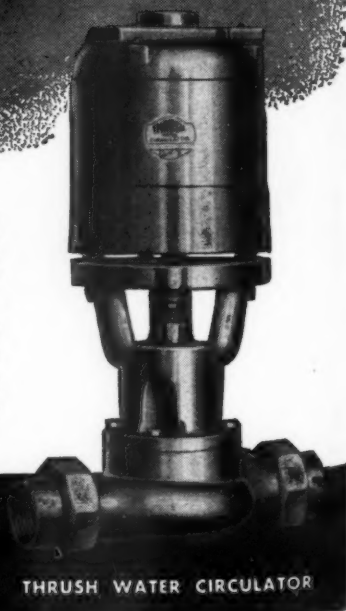
FOR REAL
HEATING
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Thrush Flow Control System provides completely automatic home heating comfort, plus year around domestic water supply for kitchen, laundry and bath from one boiler.

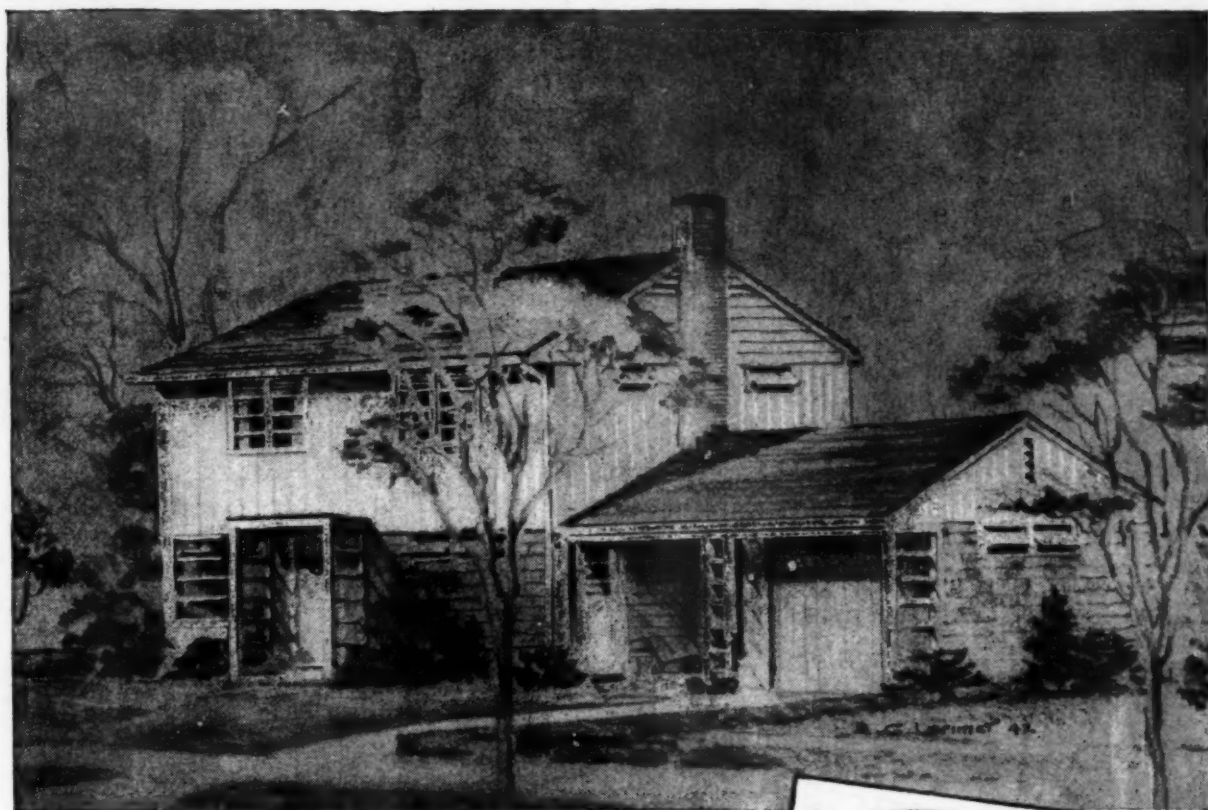
YOUR customers will thank you for recommending and installing Forced Circulating Thrush Flow Control System of Hot Water Heat. If panel heating is used, this system provides continuous radiant heat without continuous Circulator operation, assuring lowest possible fuel consumption. It also assures constant radiant heat with radiators, convectors, and radiant baseboards. Every Thrush job sells another one for you. If you are not using Thrush equipment, consult your wholesaler or write for literature. Address Department G-12

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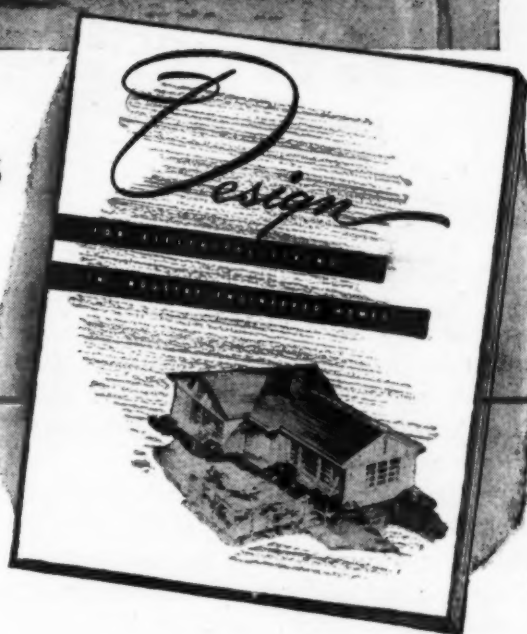
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WHY COPPER...FOR
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**We mean Convection Heating*

When you recommend heat by convection to Mr. Home-Owner-to-be, heating efficiency depends on the convector equipment you have in mind. Tuttle & Bailey assures efficient transmission of heat...with heating elements entirely constructed of copper.

Actual tests prove that of the metals used for heat transmission purposes, the conductivity of copper is approximately 700% faster than iron, twice that of aluminum. Copper means getting heat quicker from boiler to rooms, raising room temperature levels faster...resulting in fuel cost savings, customer satisfaction. Tuttle & Bailey heating elements—light in weight, durable, sturdy—are engineered for minimum

resistance to air flow, maximum contact with fins. Designed for use with gravity or forced hot water and one- or two-pipe steam systems. "Inside" facts that mean better heating.

Appearance—an additional customer demand in equipment of this type—is another Tuttle & Bailey advantage. The room shown above tells the story. Trim, modern design harmonizes with up-to-date home furnishings...overlap of front panel completely eliminates the cracked, broken plaster problem that so often develops with ordinary convectors not *exclusively built* for recessed installation.

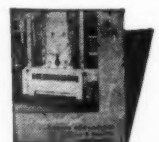
Be sure of your next *CH job...specify Tuttle & Bailey Recessed Convectors.

TUTTLE & BAILEY

Standardized

COPPER CONVECTORS

ASK YOUR JOBBER TODAY



For detailed facts that will aid specifying and installing Tuttle & Bailey Convectors, send for a copy of Catalog C6R. Write.... Tuttle & Bailey, Inc., New Britain, Conn.

Better Homes **House Beautiful**

"WHAT, your windows don't ever need painting?"

No, sir! These windows have held up for ten years and never needed a drop of paint. What's more, they never will. Include windows of Alcoa Aluminum in your new home. Aluminum can't rust, rot or warp, can't stain, absorbing surfaces. No protective painting, no special care is required. Aluminum windows keep their luster, keep winter winds out, keep their good looks after years of service. Women like aluminum windows because they are so attractive, so easy to open, so easy to clean. There are no deep, dirt-catching corners to slow up housework. Just wipe off the frame when you wash your windows and aluminum will keep its soft lustrous appearance. Leading window manufacturers build windows of Alcoa Aluminum in a variety of standard types and designs. For the name of these manufacturers, write to: ALUMINUM COMPANY OF AMERICA, 1914 Gulf Bldg., Pittsburgh 19, Penna.

Enjoy these advantages of **ALUMINUM WINDOWS**

- NO STRAINING to open
- NO PAINTING
- NO ROTTING
- NO RUSTING
- NO STAINING
- NO SWELLING
- NO SHRINKING
- NO RATTLING
- NO DRAFTS
- NO UPKEEP

ALCOA

ALUMINUM

ANOTHER REASON WHY...

WINDOWS OF ALCOA ALUMINUM

MORE PEOPLE WANT MORE ALUMINUM FOR MORE USES THAN EVER

Home buyers want windows of ALCOA ALUMINUM

Month after month, Alcoa national advertising is telling home buyers why windows of Alcoa Aluminum are better windows. That's why more and more home buyers want aluminum windows; why more and more builders are including windows of Alcoa Aluminum in the new homes they are building.

You can cash in on this extra sales advantage now. Windows of Alcoa Aluminum are available in a wide variety of standard types and sizes.

For full information, write ALUMINUM COMPANY OF AMERICA, 1914 Gulf Building, Pittsburgh 19, Pennsylvania.

MORE PEOPLE WANT MORE ALUMINUM FOR MORE USES THAN EVER

ALCOA FIRST-IN ALUMINUM



IN EVERY COMMERCIAL FORM

Roddiscraft

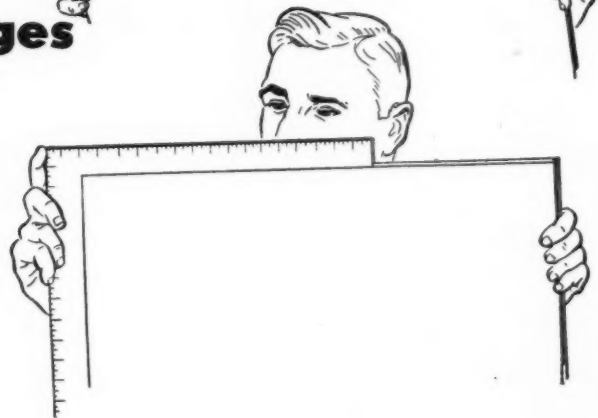
HARDWOOD PLYWOOD



Sanded to Satin Smoothness



Not a whisker on the edges



Cut straight and true

DO SOME of your customers say "Plywood is plywood — what's the difference?"

Show them how Roddiscraft is different. Let them see for themselves. Show them the fine sanding of Roddiscraft hardwood plywood — the clean edges whether lumber or veneer core, the straight,

true cut of every panel.

Roddiscraft is a finished product — ready for application with a minimum of fitting, finishing and trimming. Yes, Roddiscraft hardwood plywood tells its own sales story. Show it to your customers and let them see for themselves.

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MARSHFIELD, WISCONSIN



Install a Multi-Breaker in the Kitchen...

—THE IDEAL SERVICE FOR
BUILT-IN APPLIANCES

IN HOMES YOU BUILD with modern "built-in" kitchens, include a kitchen-installed Square D Multi-breaker to control the electrical "built-in" appliances.*

The Square D Multi-breaker provides the necessary disconnecting means required by the National Electrical Code, in addition to furnishing separate automatic overload protection for the wiring serving each major appliance. A Multi-breaker providing this added convenience and protection, installed in the kitchen, costs your customers no more (sometimes less) than the old-fashioned method of running long circuit wires from a remote point.

Multi-breakers eliminate fuses completely. Current is cut off automatically when a short circuit or overload occurs. A simple movement of the lever restores current after the cause of the overload has been removed. There are no delays, nothing to replace.



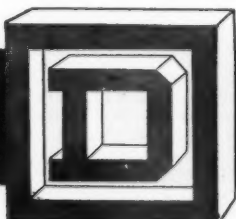
*Permanently built-in electrical appliances now may be included in house-financing plans in many states.



Protect major appliance circuits with a MULTI-BREAKER

Top illustration shows Square D Multi-breaker located in kitchen and arranged to control general lighting and these major kitchen appliance circuits:

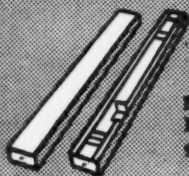
- 1 • Range
- 2 • Garbage Disposal Unit
- 3 • Dishwasher
- 4 • Refrigerator
- 5 • Food Freezer Unit



SQUARE D COMPANY

DETROIT • MILWAUKEE • LOS ANGELES

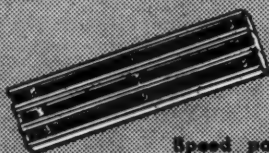
THE A. B. C. of ATLAS *Savings*



Basic unit, the Speed Panel, made of rugged steel.



Ingenious, quick-action, wedge bolt for rapid joining or stripping.

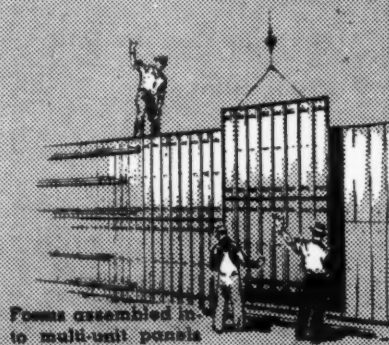


Speed panels combine into units of two or more for quick handling.



Forms are quickly and easily positioned for floors.

Light and sturdy.
Easy wall assembly.
Rapid stripping.



Forms assembled into multi-unit panels for rapid crane handling.

Cut YOUR ESTIMATE FOR FORM COSTS AND LABOR IN *Half*

if you are going
to use ATLAS FORMS

If the job involves poured concrete, check with Irvington.
Remember this:

In poured concrete construction, form costs are 60% of the total costs. And in the average job, the following statement holds true:

ATLAS SPEED FORMS reduce the cost of forms 50%!
They reduce the cost of form labor 50%! They cut the time 50%!

If you send us a copy of your plans, we'll be glad to make a layout and estimate. We'll return your plans in three days if you wish. Please use the coupon.

SO LIGHT
A CHILD CAN
LIFT THEM



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Please send me information on Atlas forms. I am particularly interested in forms for Walls ☐ Floors ☐ Tunnels ☐ Bridges ☐ Sewers ☐ Columns ☐

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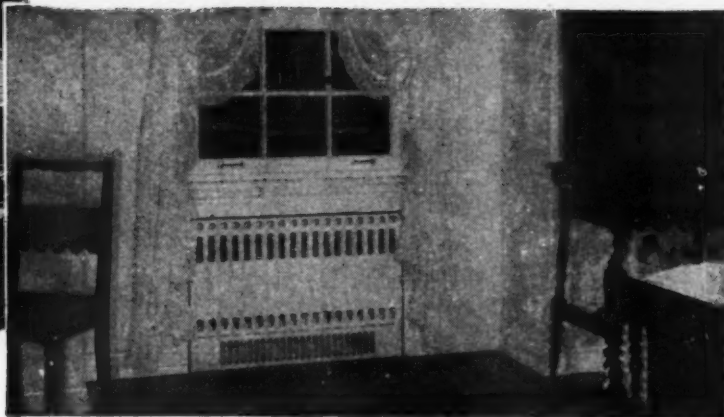
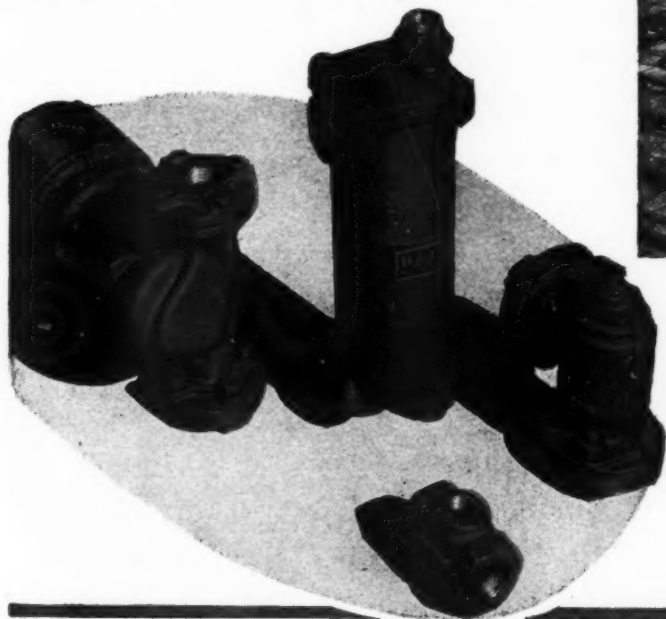


Best

*for any kind of
Radiation*

For luxurious winter comfort, there's nothing like the sunny warmth of radiant heat! And whether it is distributed by radiators, baseboards, convectors or radiant panels, a B & G Hydro-Flo Heating System assures you of its maximum benefits.

B & G Hydro-Flo Heating takes full advantage of the basic superiority of *forced hot water* as a heating medium. It establishes ideal comfort conditions because it measures out heat in the exact amounts required by the weather. As the outdoor temperature varies, the average temperature of the water in the system is *varied also*,



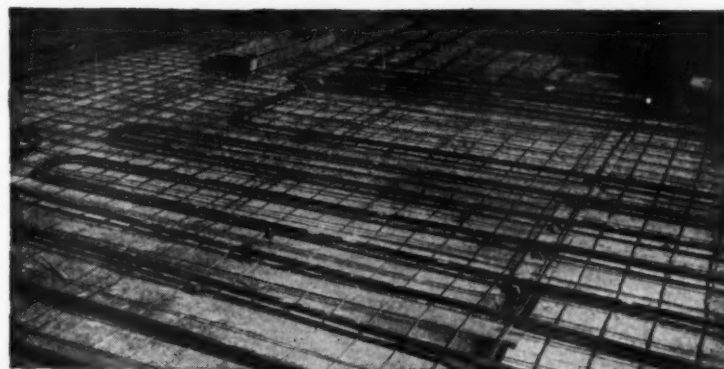
RADIATORS



CONVECTORS



BASEBOARDS



RADIANT PANELS

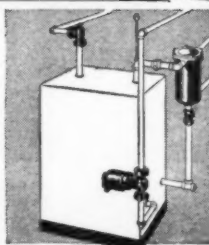
providing exact compensation for changes in heat loss.

The result of this *variable* water temperature is a *constant* room temperature, regardless of weather changes. Operating economy is obvious since fuel is burned only in amounts sufficient to satisfy the heat demand.

Don't forget year 'round hot water

With a B & G Hydro-Flo Heating System installed, the same boiler that heats the house also heats water for kitchen, laundry and bath. The supply is virtually limitless . . . low in cost . . . furnished 24 hours a day, all year 'round.

B & G Hydro-Flo Heating Equipment can be installed on any hot water heating boiler. It is known everywhere for dependable operation.



Hydro-Flo^{*} HEATING

BELL & GOSSETT COMPANY

Dept. AH-11, Morton Grove, Ill.

*REG. U. S. PAT. OFF.

Modern building means lots of glass...



ADDED SALES APPEAL, more customers, increased business . . . those are the usual results when merchants install a new store front of Pittsburgh Glass and Pittco Store Front Metal. Extensive, sustained advertising has made "Pittsburgh" known to your customers as the leader in the store modernization field. Help them . . . and yourself . . . by selling "Pittsburgh"—a complete line of glass products and store front metal, and experienced crews of workmen to handle their installation.

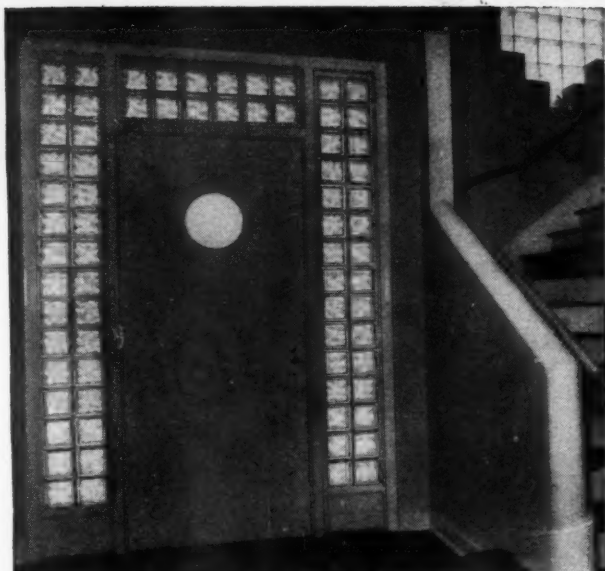
SIMPLE SETTING PROCEDURE makes Pittco Store Front Metal a time-and-money saver. All setting operations are carried on from outside, and can be completed quickly and easily. Pittco De Luxe is made by the extruded process which gives greater strength, sharper profiles and a more lustrous finish. Pittco Premier's graceful curves and rich smooth finish are fast winning high popularity. The Premier line is lighter in weight and more moderately priced than Pittco De Luxe.

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WALLS AND WAINSCOTS of Carrara Structural Glass make bathrooms and kitchens bright and cheerful. Ten attractive colors permit Carrara to be blended with practically any decorative color scheme . . . and no matter where it is used, homemakers can keep it bright and clean by using only a damp cloth. Carrara is also ideal as a splash panel behind stove or lavatory, as a fireplace surround, and for corner shelves and window sills.



PITTSBURGH PLATE GLASS COMPANY

these ideas will please your customers



← **TO GLAMORIZE AN ENTRANCE**, during both daylight and evening hours, install a course or two of PC Glass Blocks around the front door. They admit light but exclude vision over kitchen or basement work surfaces, in dark stairwells and shower enclosures.



OUTDOOR BEAUTY is added to an attractive room when a picture window is installed. Pittsburgh Polished Plate Glass makes an ideal picture window under normal conditions. Twindow, "Pittsburgh's" new window with built-in insulation, will please customers who require insulated windows. Twindow reduces heat losses and eliminates downdrafts near window areas. Twindow can be set as easily as a single pane of glass.

← **A ROOM LOOKS SMARTER** when a Pittsburgh Mirror is installed. A mantel mirror, for example, catches and repeats all a room's color and movement . . . makes it seem brighter and larger. "Spruce up" mirrors add beauty and convenience to entrance hall and kitchen. And every home should have at least one full-length door mirror. Pittsburgh Mirrors will increase the appeal of your homes . . . and your own profit.

FREE! We will gladly send you free our special "Builders Kit" which includes illustrated literature showing how you can use glass effectively on all types of jobs in which you are interested.

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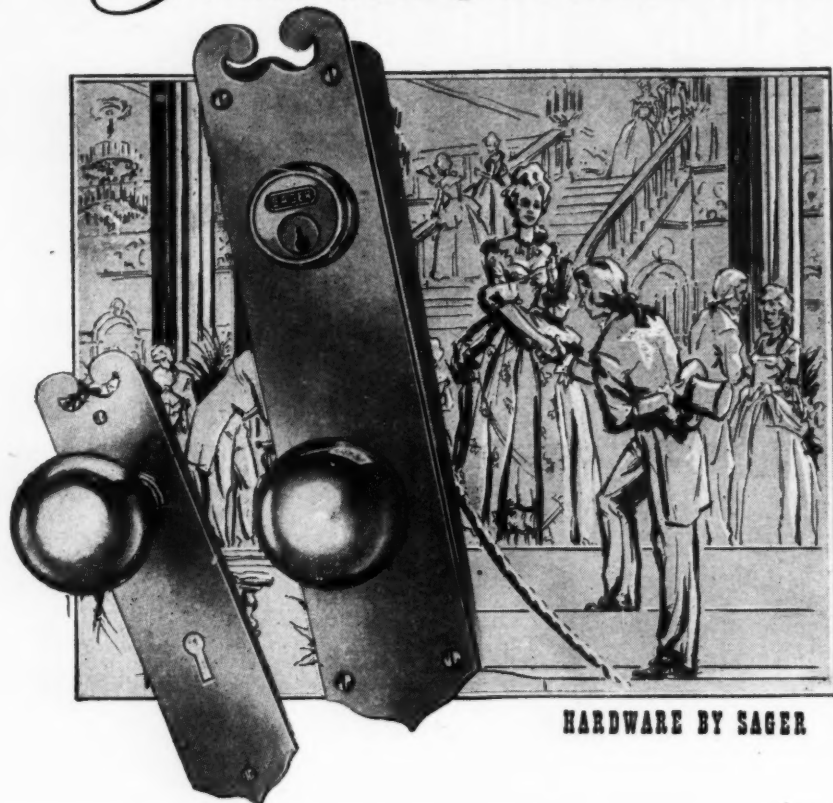
Please send me without obligation your
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American Beauties in the Colonial Tradition



Sager's excellence of styling and range of designs have paced the field in winning approval among architects, builders and contractors. Of course, beauty alone will not sell hardware. That's where Sager's utility values score, not for beauty alone, but also for ease of installation and smooth operation. For over 50 years these qualities have made the Sager line a top-quality line . . . a line exceedingly sales-worthy for Sager dealers everywhere.

Better Style in Builders Hardware by

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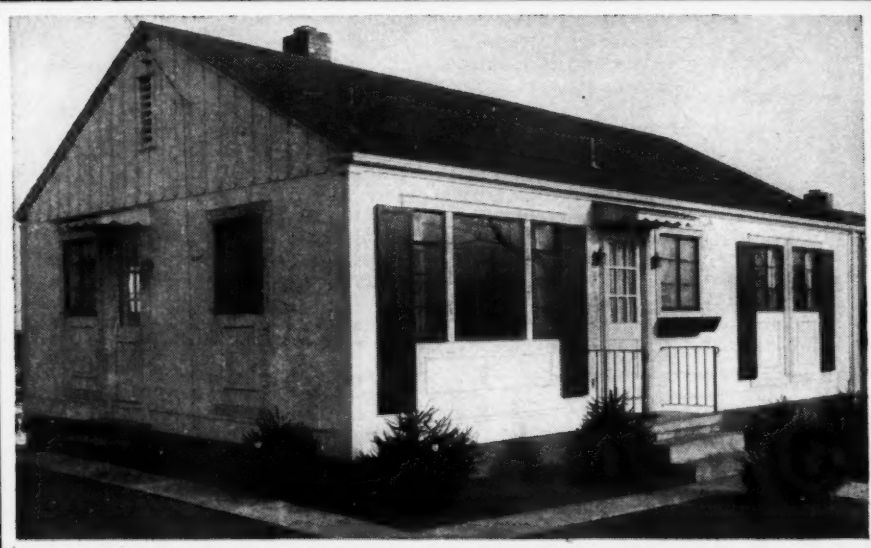
NORTH CHICAGO, ILLINOIS

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1947

HOPE'S

The Name
Guarantees

FOR
PREFABRICATED
HOMES



The versatility of HOPE'S Residence Windows is well illustrated by the unusual success of window layout in this prefabricated home.

In addition to the attractive exterior, the interior benefits from the greater light area in proportion to total window opening, the convenience of ventilating with casements and enduring quality of construction.

Admiral Homes, Inc.
West Newton, Pa.

HOPE'S WINDOWS, INC., Jamestown, N. Y.

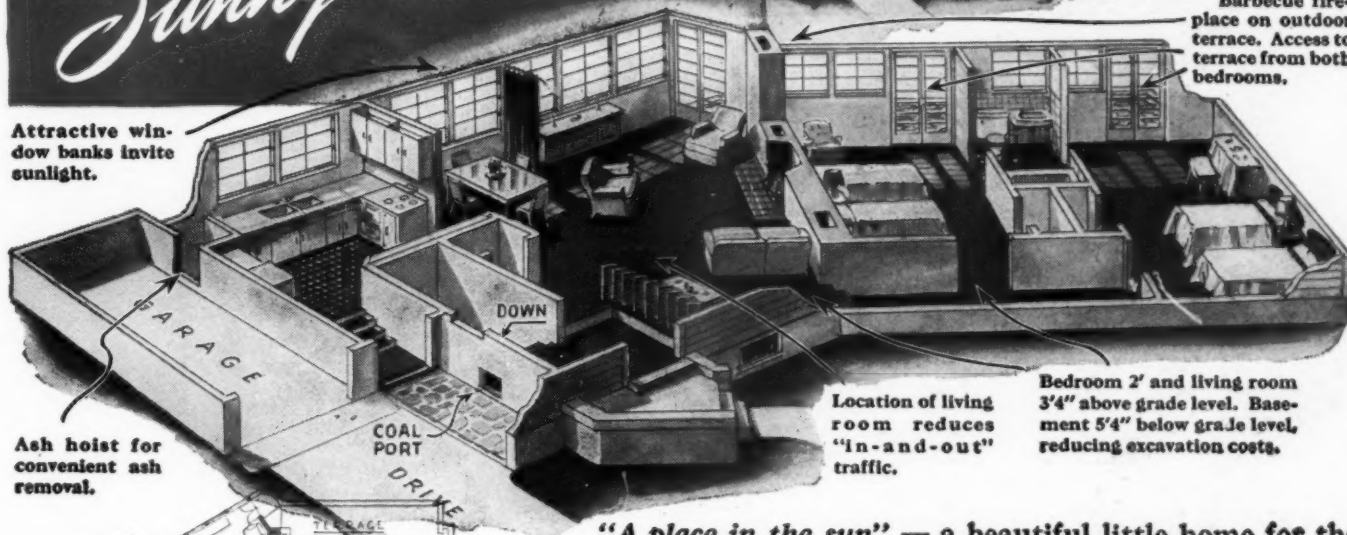
THE FINEST BUILDINGS THROUGHOUT THE WORLD ARE FITTED WITH HOPE'S WINDOWS

"Yours for Sunny Living"



Barbecue fire-place on outdoor terrace. Access to terrace from both bedrooms.

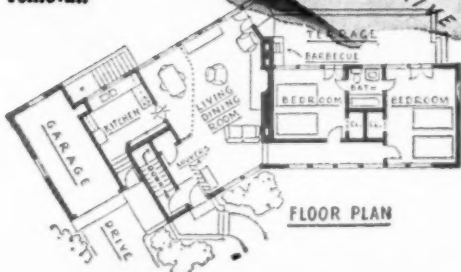
Attractive window banks invite sunlight.



Ash hoist for convenient ash removal.

Location of living room reduces "in-and-out" traffic.

Bedroom 2' and living room 3'4" above grade level. Basement 5'4" below grade level, reducing excavation costs.

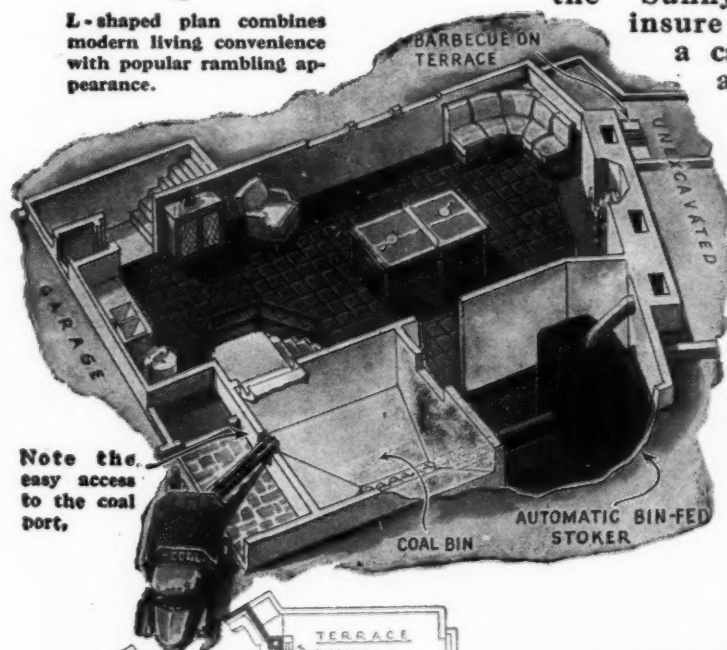


FLOOR PLAN

L-shaped plan combines modern living convenience with popular rambling appearance.

"A place in the sun" — a beautiful little home for the south side of the street, planned for people who love to live in the sun. Location and design of this house welcome the warm winter sun from every angle . . . but wide, overhanging eaves tone down the summer sun wherever necessary. This is the way to stay on the sunny side of the street —literally!

Your client will find many other attractive features in the "Sunnyside" house . . . windows at level to insure plenty of privacy and ventilation . . . a casual style that means "good living" . . . a floor plan that cuts down corridor space and sets the living room off to its own private self . . . a half basement requiring minimum excavation . . . and, best of all, a design for smart, economical coal heat!



Note the easy access to the coal port,

COAL BIN AUTOMATIC BIN-FED STOKER



BASEMENT PLAN

Half-basement offers excellent recreation space plus space for stoker and coal storage.

COAL HEAT is EVEN HEAT

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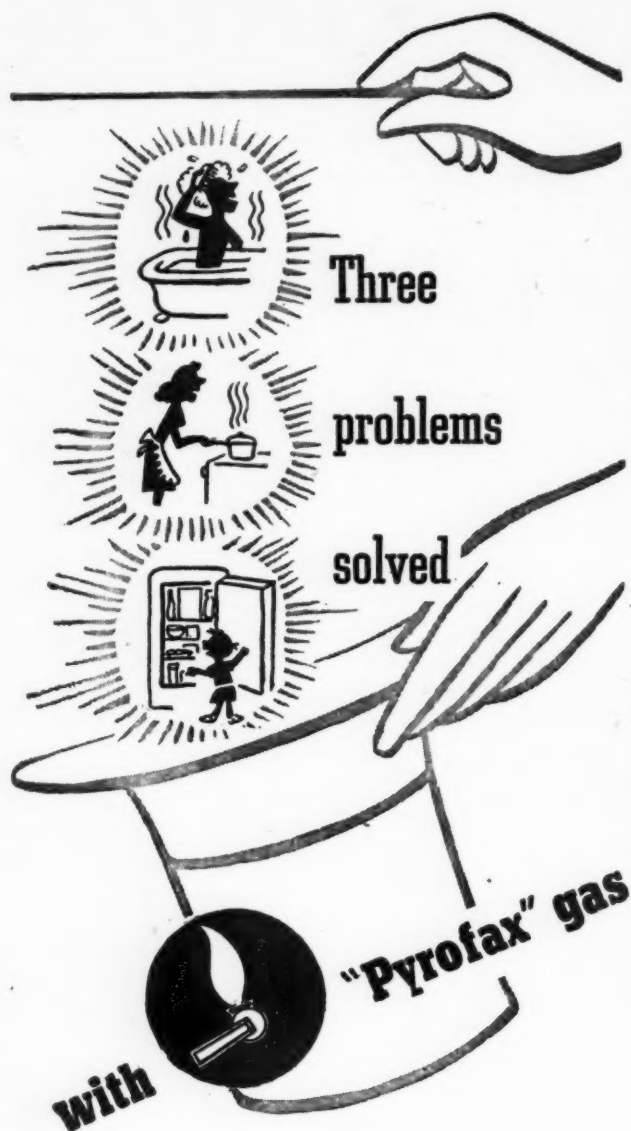
Write Andersen for full information, or consult Sweet's Architectural or Builders' File.

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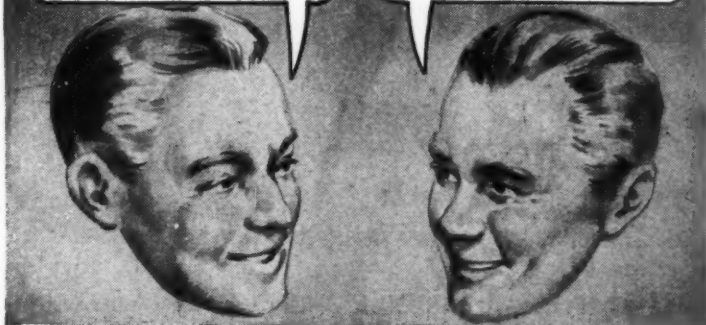
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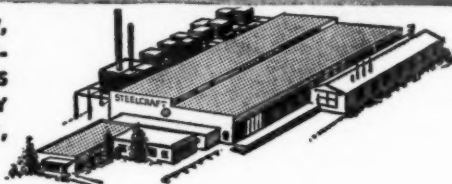
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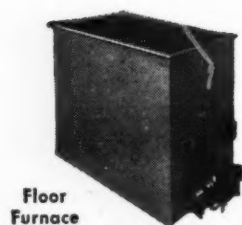
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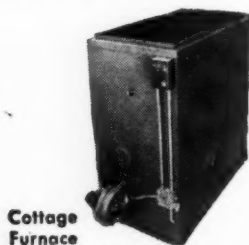
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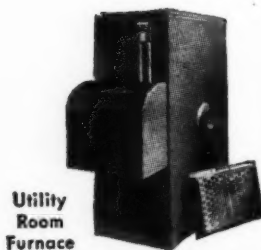
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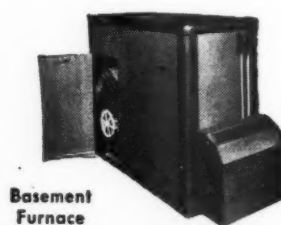
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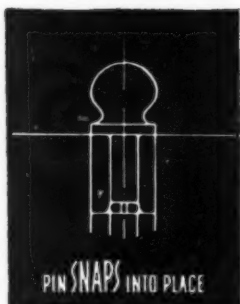
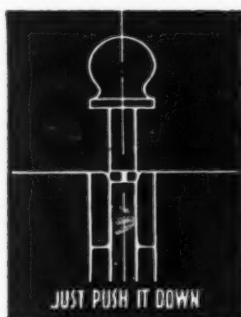
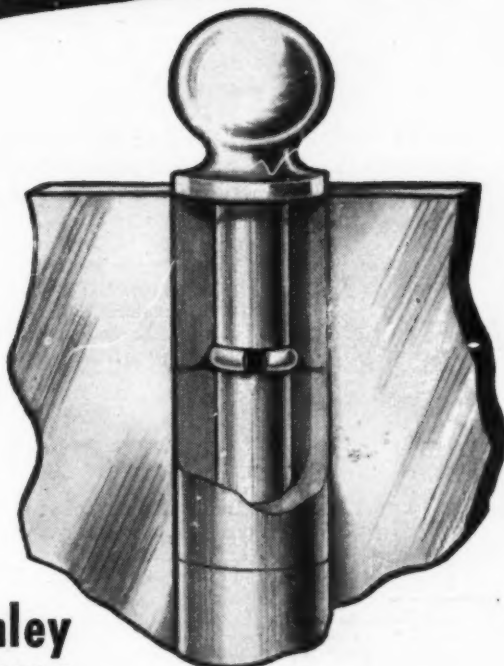


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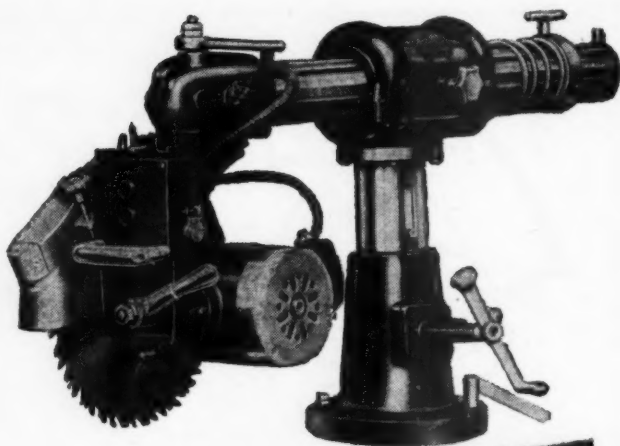


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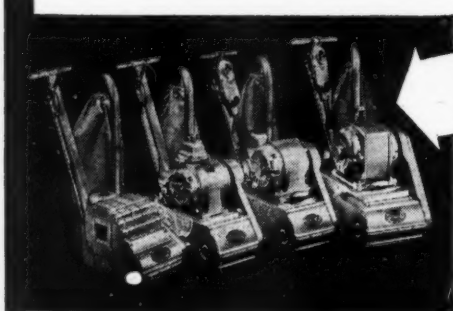
METAL TILE PRODUCTS, INC.

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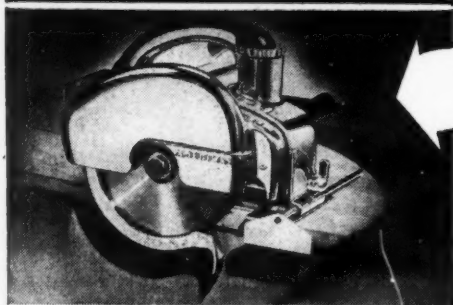
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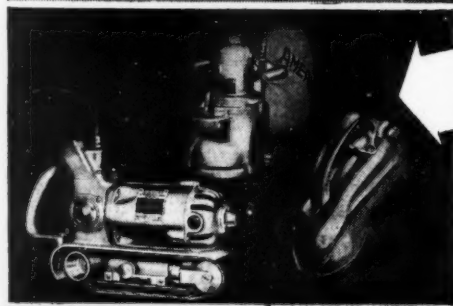
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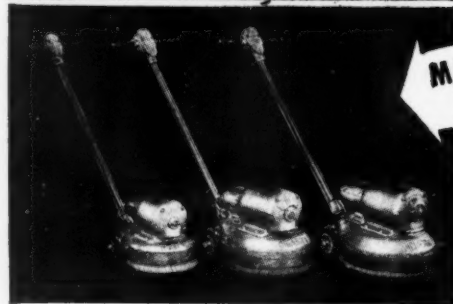
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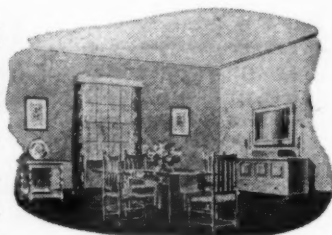
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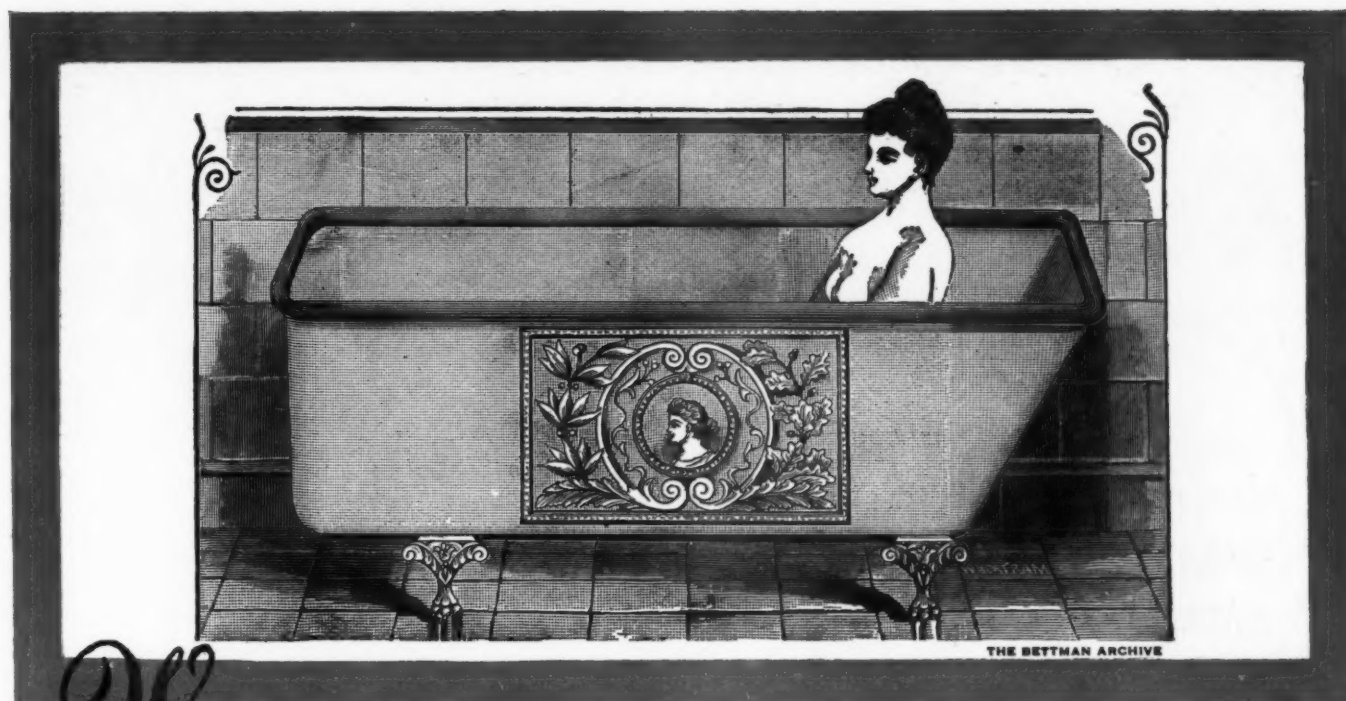
Homasote is *practical*—use it for interior walls; see the fine crackproof base it provides... perfect for paint or wallpaper. Add roof and sidewall sheathing of Homasote to get top *insulating value*. And for *strength* as well as insulation—use Homasote for subflooring, ceiling and exterior walls.

Homasote has proved itself by 30 years of successful application on residences, garages and structures of many different types.

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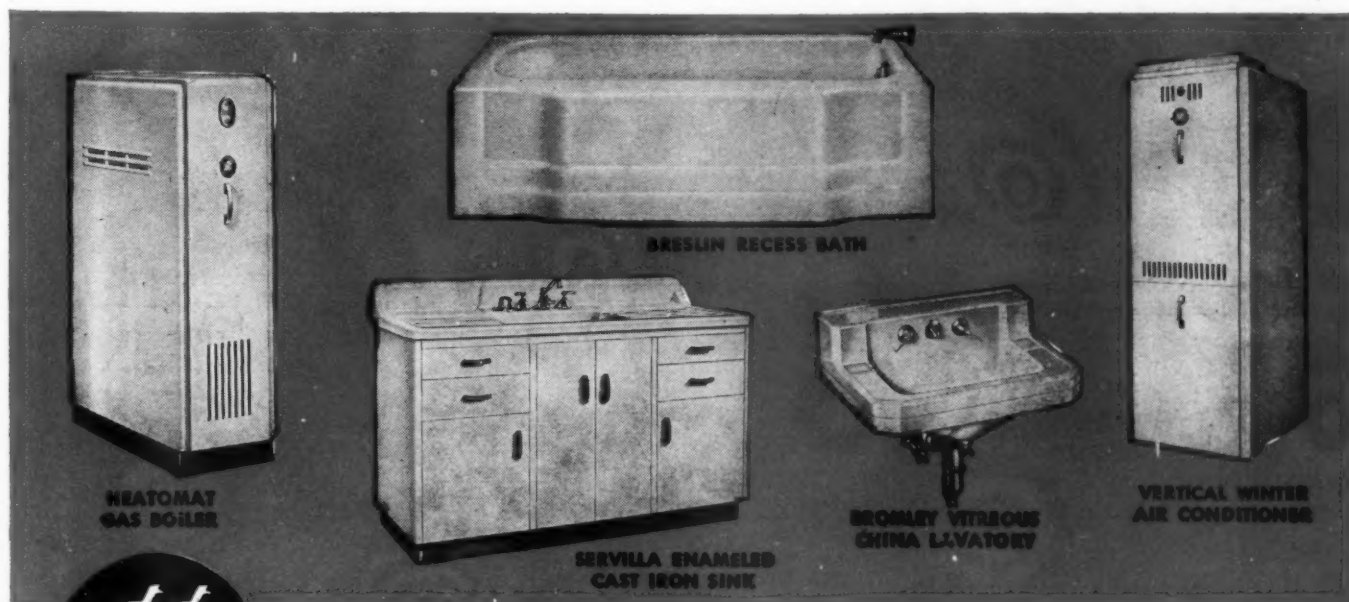
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IN THEIR DAY, both this model tub and the model in the tub were considered beauties. But just contrast them with today's! Ever since the Saturday night scrub in the round tin tub, progress in bathtub design has been made. And Richmond has contributed mightily in the making.

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L D I T O R I A L

Building Material Distribution

MANY developer-builders contend that since they order and use building materials in wholesale quantities, they are entitled to purchase directly from the manufacturers, and at wholesale prices. Since there are purchasing, accounting, warehousing and trucking costs that either the developer-builder or the jobber-retailer distribution system must bear, there are many factors to be considered in weighing the merits of the contention. No known objective study of the economics involved has been made.

On the few occasions when the subject has come up for open discussion, it has been hushed quickly. The reason is that no association, no matter how pure its motives might be, can risk the imposition of a government consent decree, or the charge of violation of a consent decree, by permitting its members to discuss in open or closed meetings any industry practice which might in any way be construed to have a bearing on price structures.

The result is that the only mention of the subject is by critics of the home building industry whose open questions and comments indicate that they begin with the assumption that the building material distribution system is monopolistic, disorganized and wasteful. The system may not be entirely free from monopolistic practices, and it may not represent the ultimate in distribution-economics, but it is undoubtedly as free of monopoly as sharp competition tempered by the frailties of human nature will permit it to be.

This should be evident, since the system was developed through more than a century of open competitive bidding for business, during which, with some possible exceptions, only the economically necessary distributive elements survived the competition. It is true that with an imbalance of supply and demand since the beginning of the war, the system has not worked with its prewar economy and efficiency.

It is also true that with the advent of a comparatively new type of builder, the developer-builder, whose requirements represent wholesale lots, there may be a need for changing some of the distribution policies of some classes of manufacturers. If these builders, or any fraction of them, based on the size of their operations, can do their own buying direct, and their own warehousing and trucking for less money than they pay the jobber-retailer system to perform these services for them, competition will force alteration of distribution policies. Competition always has forced economies and if there are economies in direct buying by builders, those economies will come regardless of who opposes them or who favors them.

It is time for the home building industry to demand the right to examine its whole system of building material distribution economics, with government consent for the protection of the manufacturers, distributors and builders involved, and to change uneconomic practices if they are found to exist. While the industry remains silent, its critics misrepresent the distribution system, and use it as a device for inciting the public to the belief that home building is a vast monopolistic conspiracy.



Grandfather's home

The American Builder congratulates the building industry on its 1947 performance record and wishes them continued success in the New Year

Home Ownership—Our Nation's Strength

Despite tremendous obstacles, the building industry will have achieved a 20-year high in total completions of homes for America's families by the end of 1947

THE nation's builders are completing the gigantic task of constructing more than 800,000 new houses this year. Despite tremendous obstacles resulting from postwar economic maladjustments, a 20-year high in total completions will be achieved. The industry, and every individual who had a part in helping to establish this commendable record, should take no small amount of pride in the accomplishment.

The nation's citizens should be grateful. They should be especially grateful because the 1947 houses embody more labor-saving, comfort-creating devices and characteristics than the world ever before has seen. These houses incorporate improvements which have been created by careful industry research and engineering for permanence in materials, economy in maintenance and efficiency in operation of all mechanical components. Automatic heating systems, modern plumbing and sanitary facilities, efficient, labor-saving kitchens and numerous less important refinements are factors the home buyer of a generation or two ago could not purchase at any price. It has been the home building industry's responsibility, from materials and equipment manufacturer to the laborer on the job, to make these improved homes available. They are fulfilling that responsibility to the nation and its citizens.

The 800,000 new houses completed this year, the majority of them sold for individual ownership and maintenance, mean much more than a few cold figures. The total signifies a definite contribution by home builders to the stability and permanence of the American system of government and enterprise. More than 100 years ago Charles Dickens wrote: "In love of home, the love of country has its rise." This is especially significant to members of the home building industry because the home

is the basic unit of our system of government—a system which has accomplished more in a shorter period to provide its citizens with abundant capital goods and comfortable, carefree, secure living than any system previously developed in the history of mankind.

When home builders construct good houses, they can be justifiably proud of a job well done. They should also take pride in the fact that with each home sold to a family, they further the maintenance of good citizenship and perpetuate the desire of the nation's citizens for good government. Destruction of the opportunity for home ownership could well mean destruction of the system which has enabled this nation to become the wealthiest on earth.

By producing houses which individual citizens may purchase and use in their own manner as good citizens, home builders are creating happiness and satisfaction that comes only to those who are privileged to enjoy ownership of their homes. Architectural trends may change, economic cycles may change, and the individual status of families may change, but a well-built home of any period, adequately maintained, always remains a home which inspires happiness and pride. The home building industry of the United States is delivering good houses to its citizens in all economic levels at a pace unequalled anywhere else in the world. Home builders are daily making it possible for more millions of people in owner-occupied homes to feel with honest sincerity the sentiments expressed in these words of Thomas Hood:

"Peace and rest at length have come

All the day's long toil is past,
And each heart is whispering, 'Home,
Home at last'."



Father's home



Homes for young America

Model House

Century of development in building materials and convenience equipment is exemplified in \$67,750 home erected by the Utah Home Builders Association

A MONUMENT to a century of progress in building materials and techniques stands high up on a mountain slope overlooking Salt Lake City. It is the new Utah Centennial Home built by the Utah Home Builders Association as its part in the observance of the state's 100th birthday.

The association's plan, which it achieved fully, was to erect a luxury home, incorporating in it the most advanced types of material and equipment that contribute to gracious living in 1947. Thoroughly modern in plan, decoration and furnishings, its architectural design is, however, on the conservative side, in keeping with the tastes of that part of the country. Despite shortages of certain necessary materials, the structure was completed in 100 days.

Buff colored brick and native rose-streaked gray stone for contrast give character to the exterior. Concrete is used liberally throughout for structural strength, including precast concrete joists.

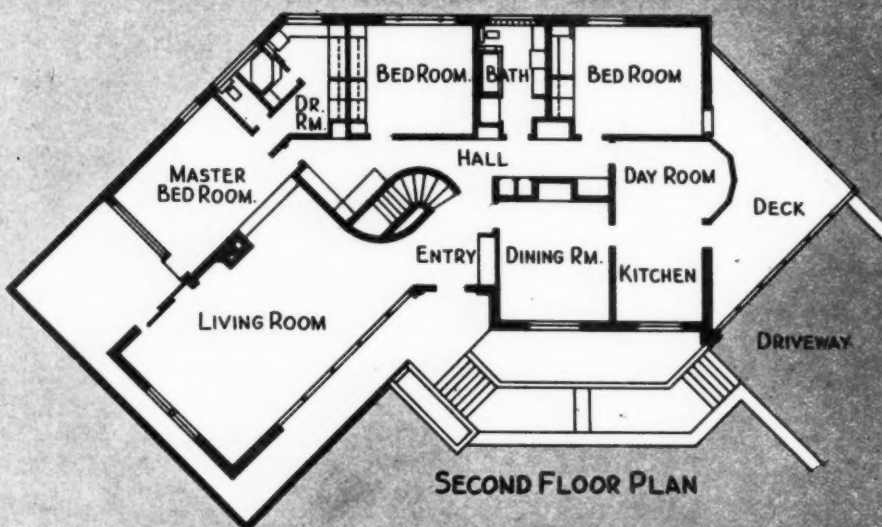
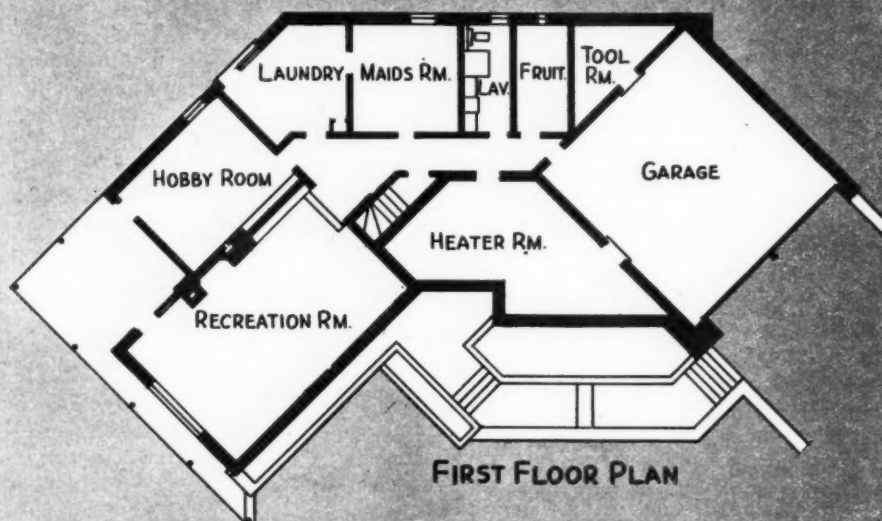
Windows are large and numerous to take full advantage of the excellent views which governed selection of the site. The entire city spreads out to the south below and the mountains tower to the east.

Zone heating is accomplished through three gas-fired furnaces equipped with winter air-conditioning. One unit heats the basement level, a second the living and bedrooms and the third the kitchen. Separate thermostats control each unit. Hot air ducts are incorporated into the floor panels with heat outlets in baseboard grilles. Thus, heating is partially radiant heat from the floor panels and partially from forced warm air emitted from the grilles.

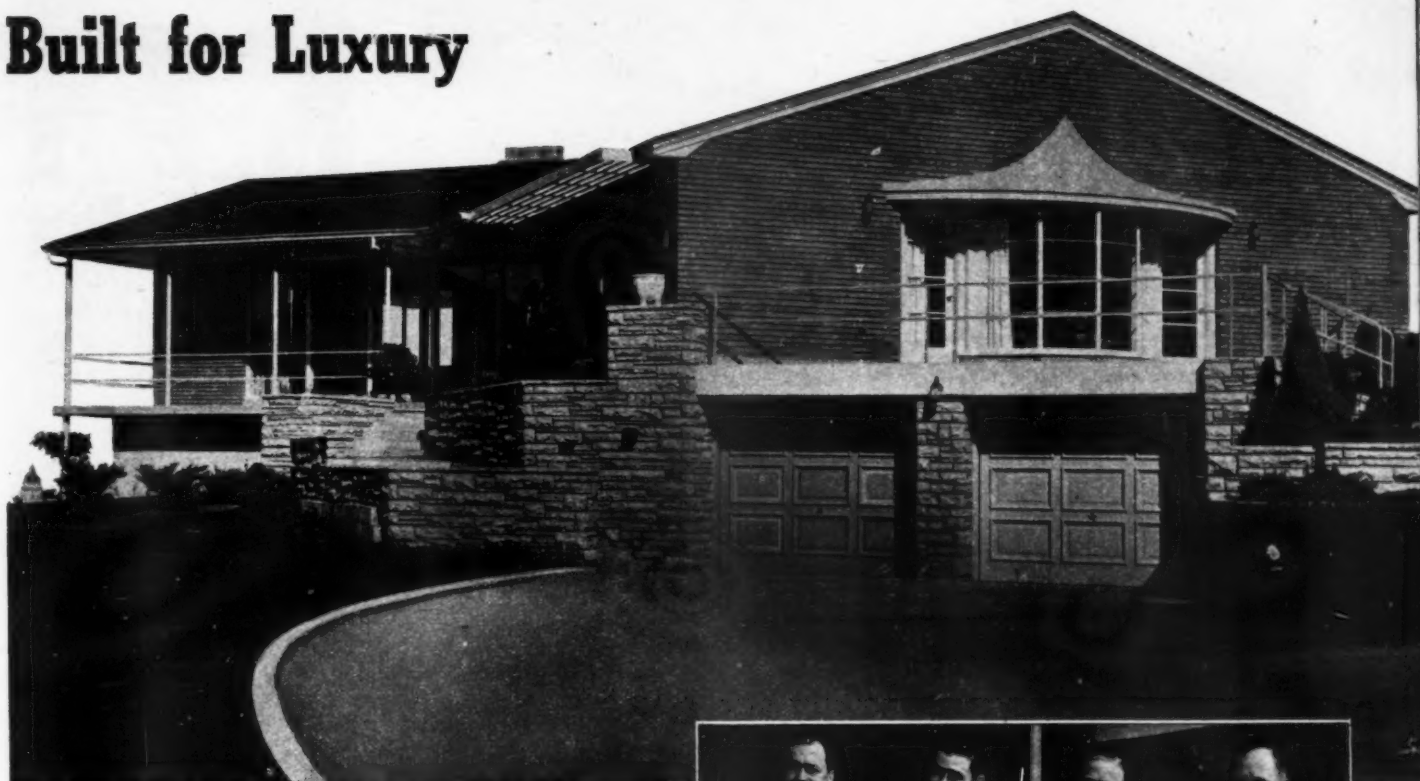
About six times as much concrete is used in the centennial home as in the usual home of its size. On the concrete floor joists already mentioned, a reinforced concrete floor slab

FLOOR plan for the Centennial House puts formal living areas in the upper level and the informal recreation and service areas, including two-car garage, in lower level

RODDED horizontal and flush vertical joints give Centennial House brickwork shadow lines



Built for Luxury



UTAH stone, brick and wood trim are combined tastefully to give a pleasing front elevation. Note horizontal effect of brickwork

3½ inches thick is laid for the upper level floors. Running around the house on three sides is a concrete deck made with volcanic ash aggregate which reduces the weight 40 per cent over ordinary concrete without any sacrifice in strength.

Over 1,500 feet of broken ashlar stone, laid random range, went into the finished house. This includes the retaining walls in the front and flanking the walk leading to the house. The same stone is used inside the house for the large living room fireplace and the planting area which separates the living room from the stairway to the basement. The weight is supported easily by the concrete joists.

Inside wall construction is plaster over rock lath. Glass blocks are used for exterior walls in the upper bathrooms to admit light and also are used for decorative partitions in the bath. Cinder blocks are used for basement walls with plaster applied directly over them. They are used also as liners in some other parts of the house because of their nailability.

A special feature is the lighting installation which cost \$4,500 and embodies almost every modern type of illumination and bactericidal unit. The walkway and outside stairways are lighted with special step-lighting units recessed into the adjacent stone wall. The porch or deck running around the house is illuminated from recessed units in the ceiling having special lenses. Spill light from these units takes care of the yard. In the entry, a recessed fluorescent unit provides general illumination and a recessed reflector-lamp unit lights the circular stairway descending to the basement and the indoor planting area at its head. The hall is lighted with recessed fluorescent lights.

The living room lighting is purely decorative, light for seeing being furnished by floor lamps. A recessed unit runs the full width of the room above the west windows and valance lighting from the new slender fluorescent tubes is provided over the south windows. Valance lighting is provided in two of the bedrooms, and conven-



UHBA officers and those in charge of building the home. Left to right, standing: Arch G. Webb, executive secretary; C. Taylor Burton, president; Albert T. Neilson, builder of the home; J. Albert Smith, second vice-president. Kneeling: George Adamson, manager, and Elbert G. Adamson, director in charge of construction



STONE plant bed and Mexican cedar louveres at basement stairhead



IN the living room, colors in the split stone fireplace blend with soft tan and brown decorations, set off by a sharp green carpet. Big windows and glassed doors open three sides to the view. Antiqued mirrors at far end add sparkle without clear reflection



HUGE picture window in the dining room makes the magnificent view out over the city its dominant feature. Note baseboard grille under the window which distributes heat into the room after hot air circulates beneath the floor panel. Colors in the dining room are brown, green and coral. Wall paper shows excellent new modern pattern

RECREATION room in lower level has many features—knotty pine panelling and bar, contrasting hardwood parquet floor, and acoustical ceiling circled by continuous fluorescents and another picture window

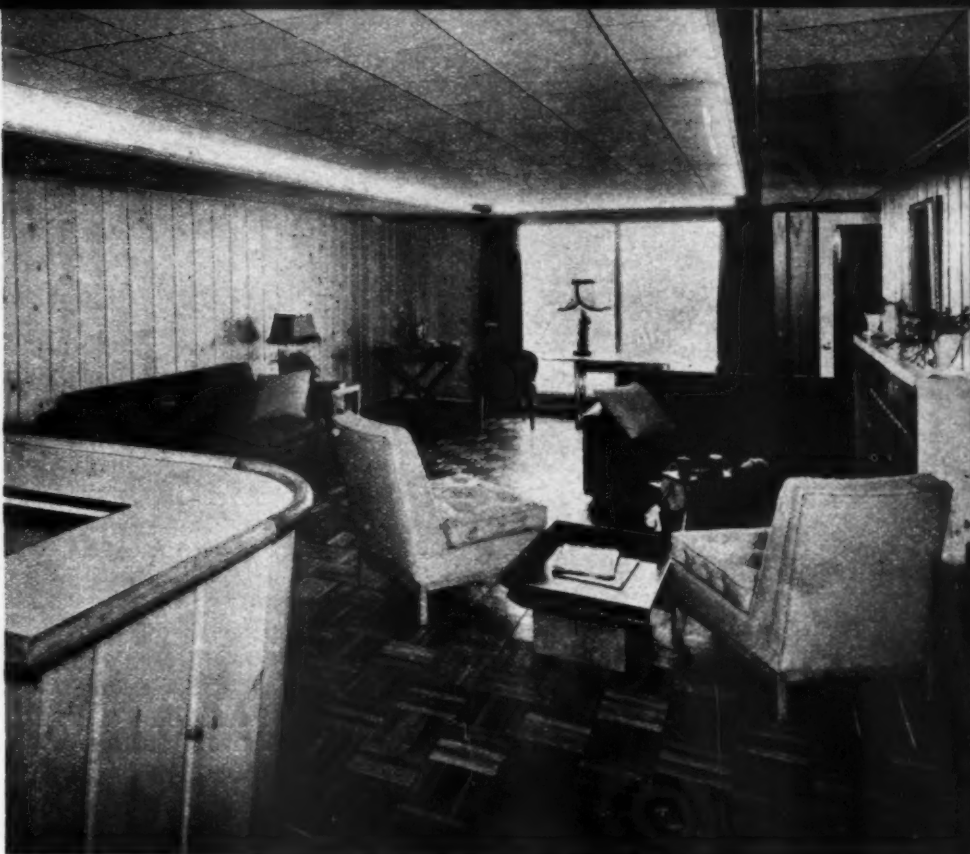
tional residential fixtures are used for ceiling lighting in the bedrooms and most other rooms.

The bathrooms received special treatment. Slim fluorescent recessed units are installed over the mirrors. In the center of the mirrors, a new style sun lamp is installed to flood the room with ultra-violet rays when desired. In one bathroom, a germicidal lamp unit is installed to kill airborne bacteria and reduce odors.

The kitchen has a flush fluorescent unit, one semi-flush unit and a circular fluorescent unit in the ceiling. Concealed fluorescents are installed over the range, sink and cupboard work area. In the dining room, a combination of fluorescent and incandescent spot light gives sparkle to china and silverware on the table. The rumpus room in the basement is equipped with a semi-concealed cove using 8-foot slim fluorescents. The cove is created by dropping a portion of the ceiling a few inches.

The kitchen has an electric range, refrigerator, dishwasher and garbage disposal unit; laundry, an automatic washer, drier and electric ironer.

Electric wiring is more complicated than in the usual home because of the extra lighting and large number of convenience outlets. Telephone wiring is built-in with seven stations throughout the house. Plumbing is copper tubing or pipe with brass fittings. A water feed line with water softener treats water for the house.

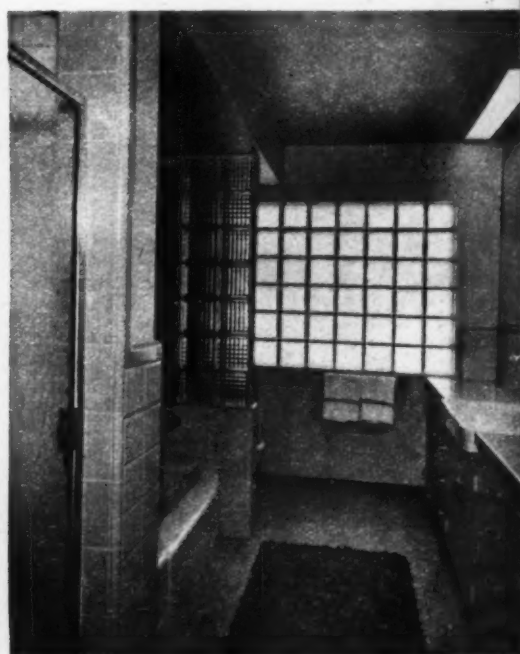


MATERIALS AND EQUIPMENT USED

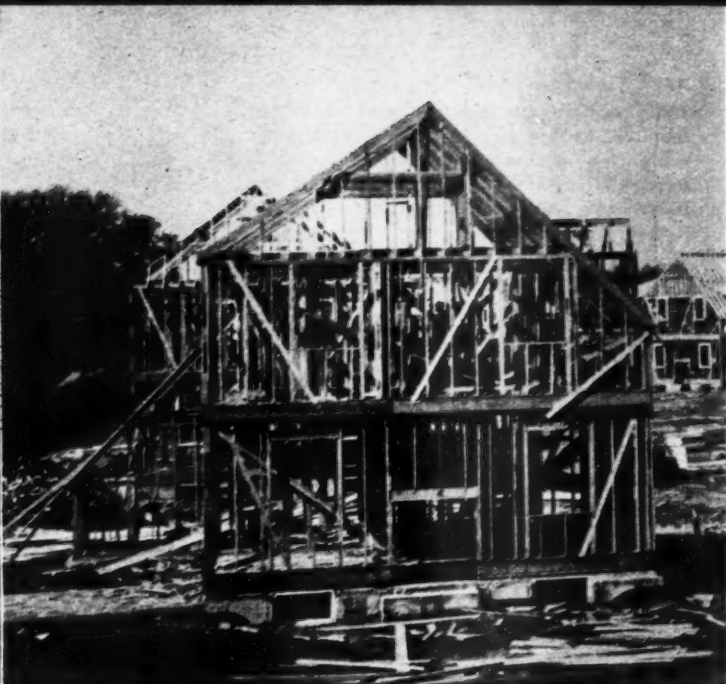
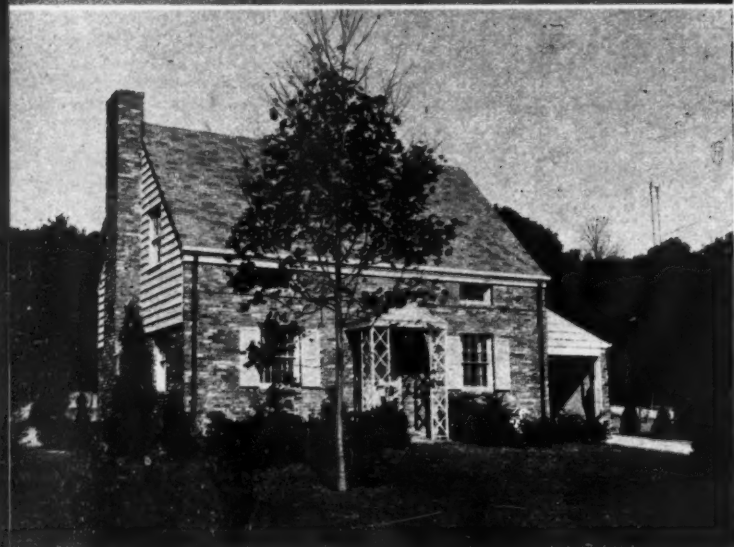
American Asphalt Roofing Corp., asphalt shingles	St. Charles metal kitchen cabinets
Certigrade cedar shingles	GE gas-fired forced hot air furnaces
Zonolite insulation	GE Precipitron
Simpson acoustical ceiling tile	GE lighting
U. S. Gypsum Rocklath	Westinghouse refrigerator
Bruce prefinished oak block flooring	Westinghouse electric range
Insulux glass block	GE dishwasher and Disposall
Curtis millwork	Bendix washer, drier and ironer
Hope's steel windows	Ruud gas-fired automatic hot water heater
Pittsburgh Plate Glass Twindows	Deep Freeze home freezer
Schlage hardware	Widdicomb built-in furniture
Crane bathroom fixtures	Schumacher wallpaper
	Katsenbach & Warren wallpaper



COMPLETE electric kitchen has refrigerator, range, dishwasher and garbage disposal unit



ONE of the baths, done in glass block and tile

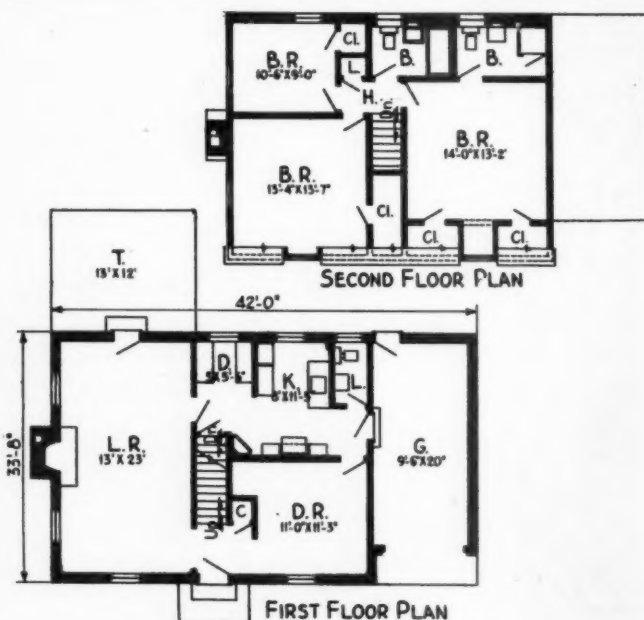


**Levitt & Sons, Long Island, mass
builders, return to the deluxe
housing field in big operation
supplementing small-home project**

MATERIALS AND EQUIPMENT USED IN THESE HOMES

Poured concrete foundation
Exterior walls—hand split
shingles, brick and stone
Interior walls—three plaster
coats over gypsum
lath
Johns Manville asphalt
strip shingles
Cellulite sidewall insulation
Mineral wool insulation
Plastic wall tile in kitchen
and bathrooms
Kentile floor in kitchen and
bathrooms

Other floors, hardwood
Chase copper plumbing
Briggs bathroom fixtures
Berry aluminum upward-
acting garage doors
Timken oil furnace, Bell &
Gossett water heater and
pump
GE electric range
GE electric refrigerator
Bendix automatic washer
Youngstown kitchen sink
and cabinets
Metal venetian blinds



AT left, four of the nine exterior variations of this floor plan



A PANORAMIC view of Levitt's latest deluxe housing development shows the impressive size of a mass operation

Six Rooms, Two and One-Half Baths—\$18,500

TO the production-minded firm of Levitt & Sons of Manhasset, Long Island, the return to construction of better type homes for the first time since the war must seem like only a sideline operation. The finishing of a dozen or so homes a week sounds insignificant alongside the 115 to 120 completions achieved every work-week in the small homes project which Levitt started in July, and where over 1,500 already are occupied with hundreds more nearing completion. (*American Builder*, June, 1947)

The project only seems less significant because of the immensity of the mass-produced smaller homes job, however. And Levitt expects to achieve comparable production speeds on the larger homes when the necessary equipment can be secured fast enough for installation to match the rate at which the structures can be erected.

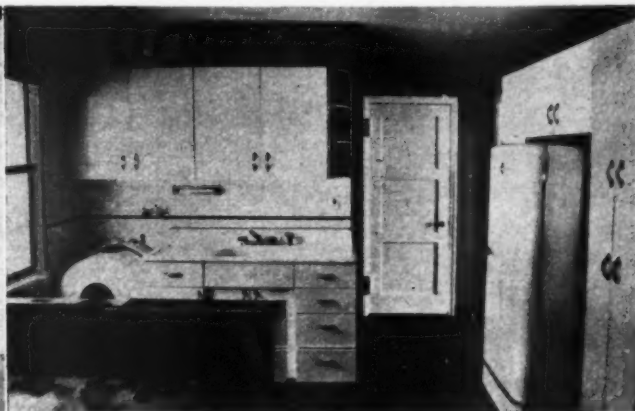
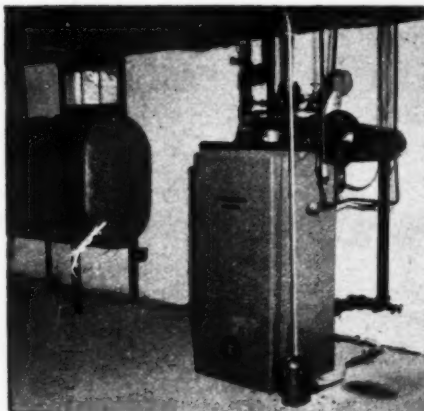
Architecturally, the new Levitt homes in Strathmore-at-Roslyn are similar to styles used in former projects. But they are larger in dimension, completely equipped, and set on lots averaging 10,000 square feet with fully landscaped grounds. Designed by the younger son, Alfred Levitt, there is one common floor plan with nine different exteriors. Variety is achieved by staggered building lines and variation in materials, colors and landscaping among these nine exteriors.

The first group of homes is being sold for \$18,500, and

the entire production for this year was sold in a week following a large newspaper advertisement that appeared October 12, a Sunday. Another ad was run the following Sunday to tell prospective buyers that they would have to get in line for the homes that would be built next year, that the price would be higher, but probably under \$20,000. Probability is they will sell for \$19,500. Only veterans may buy, and the deal is \$1,000 cash and \$125 a month for carrying charges, including amortization, interest, taxes, water and insurance.

Bill Levitt, sparkplug of the big building organization, points out that the purchaser of an \$18,500 house need buy nothing in the way of additional equipment. The completely equipped kitchen has an electric range, 10-cubic-foot refrigerator, automatic washer, metal cabinets and upholstered benches in the breakfast nook. An oil furnace with forced-flow hot water pushes heat out into the rooms through convectors. There is a lavatory on the first floor, and two baths on the second. One has a shower stall and the other a recessed tub. Two bedrooms have double closets and the third a single. There is ample linen closet space and plenty of closets on the first floor. Entrance to the garage is through the kitchen. Decoration is modern throughout, with colorful kitchen and bathrooms decorated in bright plastic wall tile.

SAME precut materials method is used in this new Levitt project as in other former projects, and plumbing is put together in shop. When houses are finished, the elaborate mass planting immediately erases raw appearance. Houses are completely equipped for service; see right: A compact oil furnace gives hot water and heat. Kitchen has range, washer, large refrigerator and modern metal cabinets

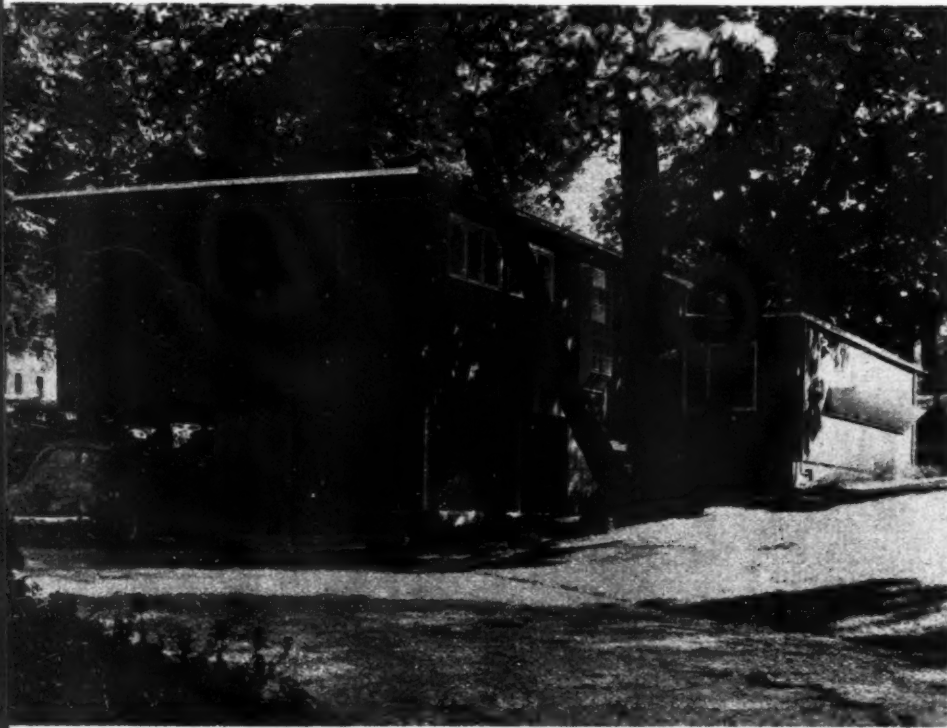


IDEA HOUSE



VIEW of screened porch and terrace. Wide use of large window areas is indicated in this house in both living room and bedroom

Idea House II is an individual home. It makes no pretense toward solving the problem of prefabrication or mass production. It hopes to enable new owners to obtain good houses through modern thinking



THERE are no windows in north wall of bedroom wing. Large, outside storage closet between carport and entrance walk is in cement plaster. Roof overhang has screened vents

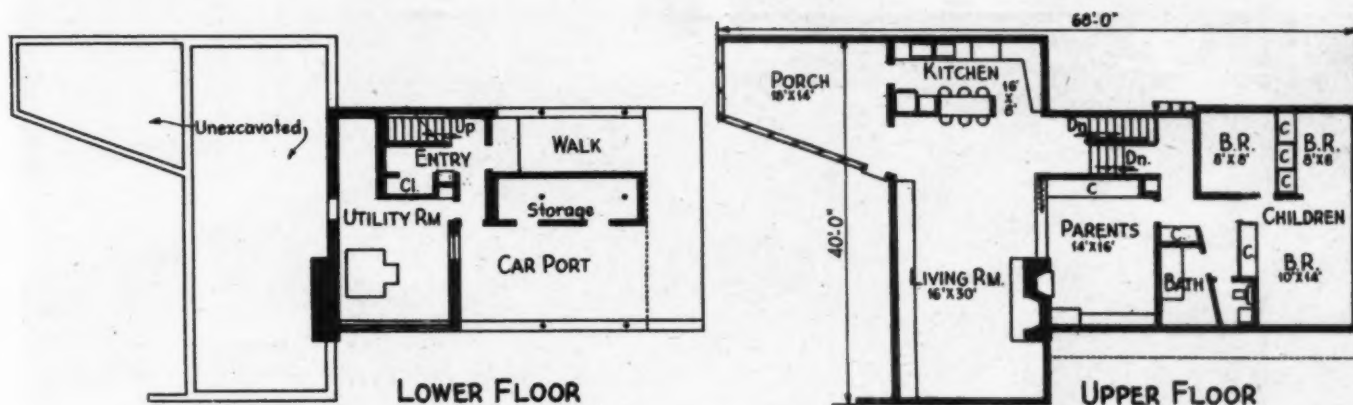
THIS is the second time in the past six years that the Walker Art Center, Minneapolis, Minn., has plunged deep into the controversial and explosive problem of modern home design. On September '28, the Art Center opened for public inspection Idea House II located on grounds at the rear of the Center's main building.

In designing and constructing Idea House II, the sponsors, designers and builders have tried to limit themselves to materials that are usable in the average home. Trick devices and experimental construction methods have been avoided. The purpose was to show that a good 1947 house can be built without engineering miracles or innovations. A good house is a product of good thinking.

The sponsors believe that Idea House II will stand as a reference point for home builders. The design, construction and decoration would be outstanding in any period. No pains have been spared to illustrate basic standards for a good, livable and durable dwelling.

This house is designed to provide generous living space, within a limited area, for a family of four, a couple with two children. The house is arranged so that it is practical both at a time when the children are very young, as well as in later years when they will have different requirements. A perusal of the plans will show that

Designed for a Family of Four



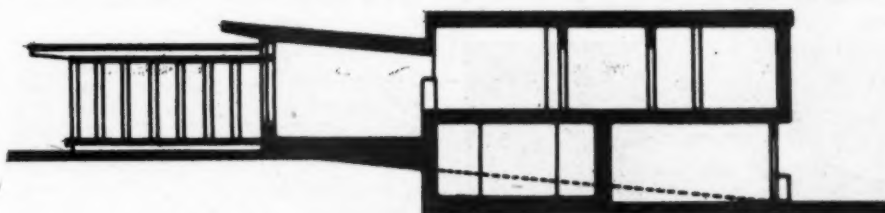
NOTABLE features of the plan are the special area provided for children and the 16x38-foot living-kitchen room

the interpretation of family-of-four living, as far as room arrangement is concerned, presents some startling changes from the "Cape Codder" of the last generation.

It was considered essential in the planning that there would be privacy for each member of the family. This aim has been accomplished while maintaining at the same time a feeling of spaciousness and openness throughout the interior. The interior has found the exterior moving in through wall-sized windows, with outside materials inside and vice-versa. Bedrooms have come out of the chintz and darkness, and gained a new livability. The kitchen has taken off its "Mother Hubbard" and moved into the living room. The old one-man-at-a-time bathroom has sprouted new compartments.

Containing approximately 19,000 cubic feet, Idea House II was built by the Art Center at a cost of about \$21,000. What it would actually cost, would depend upon the builder's resourcefulness in cutting down construction inefficiency, finding the right materials on schedule, and adjusting to meet modern building demands.

In order to take advantage of the sloping site, a split-level plan was the natural result. On the lowest level are the covered entrance walk and the carport; both lead directly into the entrance hall. Adjoining the carport



DIAGRAMMATIC section of house, showing split level arrangement



VIEW shows carport and covered entrance walk leading to entrance hall. Permanently fixed sun shade of wood indicated on kitchen and porch windows at the extreme left of picture



LARGE glass areas in living room provide solar heat in winter. Walls are finished in the same natural redwood as outside of house



BED-SITTING room has a cast stone fireplace



CHILDREN'S apartment has two sleeping alcoves which insure privacy when closed

is a large storage compartment for storm sash, garden tools, and the like.

From the entrance hall, an easy run of steps lead to the living area on the middle level; this area faces south away from the street. The living area provides all the physical elements necessary for social gatherings, recreation, food preparation and eating. In the summer, it is enlarged by the screened porch and open terrace.

Up another short run of steps is the sleeping wing, with the main windows facing east. Spaciousness is achieved throughout the house by opening the different levels to each other; from almost any spot in the house, one can look either up or down to another level.

Divisions between rooms are not fixed; kitchen and living room may be completely separated from each other, or they may be opened to become one continuous area. This room, measuring 16x38 feet, with an adjoining porch that is 18 feet long, has been referred to as the 4-in-1 living area, having built-in storage cabinets, all-purpose family table, the kitchen-to-live-in, and screened porch for recreation and dining.

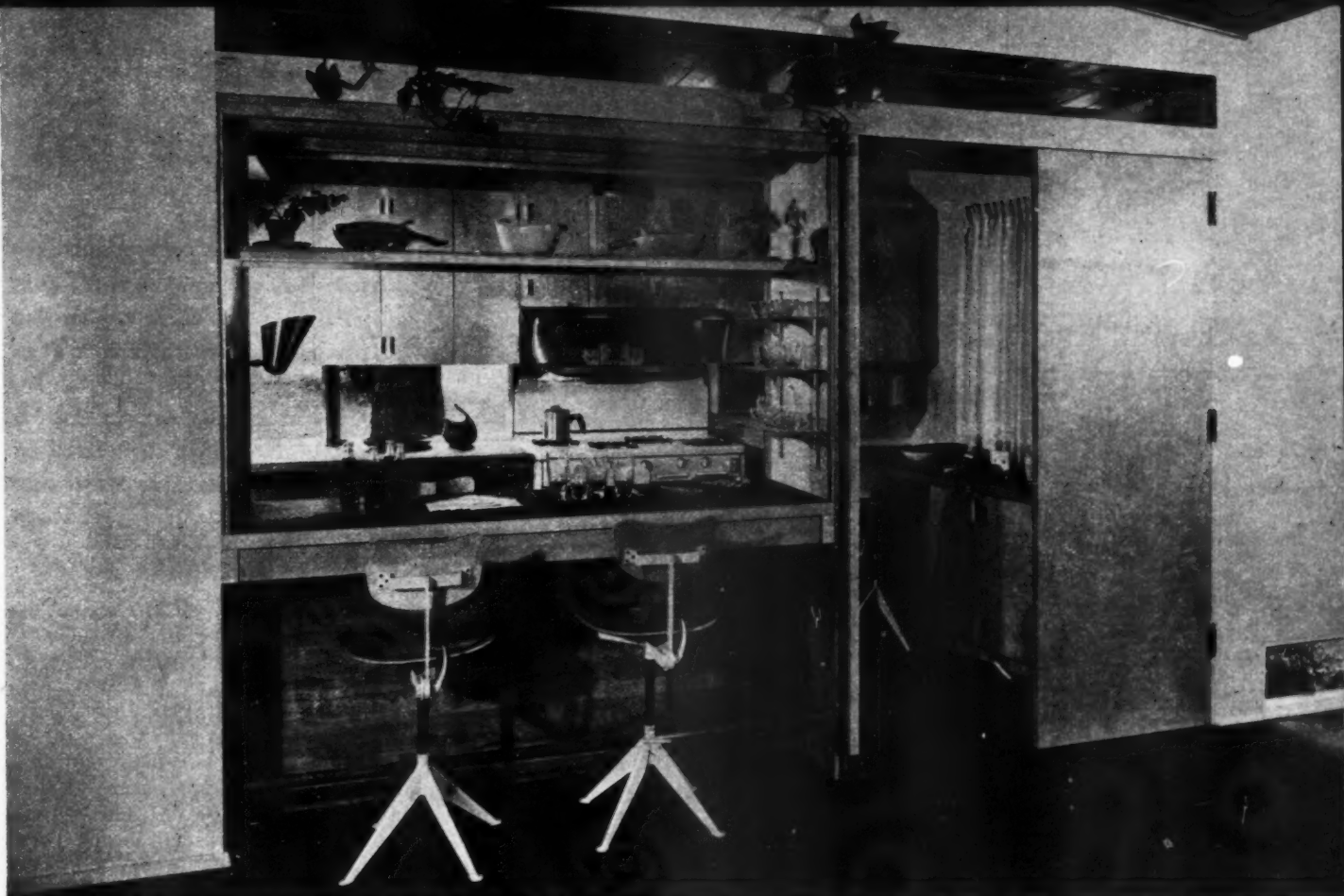
The parents' bed-sitting-room possesses conveniences and facilities not found in the conventional bedroom. It has a fireplace, plenty of cabinets, bookshelves and storage space. This is another step toward giving utmost

privacy to each member of the family.

The children's quarters may be used as one large room, or subdivided into three distinct spaces. Each of these alcoves can be closed off from the living-play area by Modernfold doors. This flexibility makes the house appear much larger than its 19,000 cubic feet. The stairhall is used for more than circulation; it gains importance as a background for works of art. The pickled-pine wall and the two redwood walls, with their unbroken surfaces and natural and artificial illumination, set off paintings effectively.

Located in the lower level utility room is the Servel automatic, all-year gas-fired air conditioning unit and water heater. This unit controls with ease the temperatures in summer or winter as the case may be. The main bathroom contains a "Stanfab" factory-fabricated one-piece bath room unit. This is a radically new, space-saving, all-in-one fixture. Factory-fabricated storage units containing cupboards, wardrobes, chests, desks, and open shelves are located in the living room, parents' bed-sitting-room, and children's quarters.

With the exception of cement plaster on the exterior walls, and the soffits of the carport and entrance walk, the house is entirely of dry-wall construction. Standard methods were used with materials that were readily



VIEW from living room into kitchen. A two-way breakfast bar with double doors adjoining separate these areas when desired

available. The construction outline is as follows:

Foundations: Poured concrete, cement block

Lower floor walls; fireplaces and chimney: Cement block

Exterior walls: Vertical t & g redwood siding, 10 inches wide; building paper; horizontal sheathing; 2x4's, 16 inches o.c.; 4 inch insulation; Sisalkraft vapor barrier; interior plywood, 1/4 inch pipe, 3/8-inch fir Weldtex, or redwood siding

Lower floor storage room: Three inch terra cotta blocks, cement plaster on face of blocks

Ceilings: Lower floor, cement plaster on metal lath; living area, redwood; bedrooms, halls, acoustic tile; bathrooms, porch; waterproof marine plywood

Floors: Carport, entrance walk, utility room, porch, cement; entrance hall, living room, kitchen, asphalt tile; bedroom wing, rubber tile

Windows: Anderson casements

Insulation: Four inch Kimsul in walls and roof

Roof: Tar and felt, surface painted aluminum

Idea House II has been built at this time, when the excessive demand for housing, has opened the flood gates for cheap construction, impossible designs, shoddy materials and indiscriminate taste, to prove to a skeptical public that good houses are possible.



VIEW from porch through the Dutch-door into the kitchen. There are two counter heights, the regulation 36 inches at the sink; 32 inches to the right of the stove to permit work while sitting. Windows between counter and cupboard are a feature

Operating in an unusually high labor cost area, this builder was able to make notable reductions in overall construction costs by systematizing work in a small shop for precutting and preassembly of house sections on the project

Most Outstanding Developments in Home-Building History
Ideal comfort conditions achieved by hot water
gas-fired automatic heat.

Clean heat takes drudgery out of keeping house. No warm air to pick up and deposit dust on cold surfaces.

Laundry and utility room next to kitchen prepared for automatic laundry and electric dryer.

No registers or radiators to affect the placement of furniture.

No cold and drafty floors, no more snuffles and sneezing.



FHA Financing price low as \$400!aETAOIN low as \$10,500. Down payment to Veterans low as \$400. House widths, 33 ft. to 37 .tf Depths, 26 ft. to 30 ft. The lot a big one 50x150. Solid 8 ft. concrete driveway.

A large L-shaped living and dining room with large picture windows. A SPARKLING KITCHEN sensibly arranged; two and three bedrooms with excellent closet room. Future 2 rooms on 2nd floor.

Copper plumbing by Chase. Complete insulation, top, sides, all around.

A COMPLETE BRIGGS BEAUTY-WARE BATH with shower and Armstrong Monowall around tub. Armstrong asphalt tile floors.

Maurice J. Fishman, Pres. Fred H. Kromer, V. Pres.
OFFICE ON PROJECT: 6619 PEARL RD.
 One Mile South of York Road
Parma Heights FLorida 7300

AD used to promote interest in houses in Parma Heights Addition

THE use of shop precutting and wall section preassembly practices to reduce labor costs is enabling Maurice J. Fishman of Cleveland to deliver two-bedroom radiant-heated story-and-a-half houses to purchasers in that unusually high cost building area for \$10,500. The houses, located on 50-foot lots, have an unfinished second floor with space for two additional bedrooms.

Mr. Fishman acquired 116 acres in Parma Heights, adjacent to Cleveland, platted it and set up a small wood working shop on the site. Equipment in the shop consists of two radial arm saws, a band saw, jointer, table saw, jig tables, and the usual hand tools. Power tools are used in the shop and on the site wherever feasible. By carefully routing material and labor on the work, this small shop can produce up to five houses a day. Using ten men on the site, the two bedroom house can be erected with roofing and siding ready for wiring in two days.

The houses, which are basementless, set on concrete slabs with the radiant hot water heating coils imbedded in the slabs. When the project was first started, 1-inch copper tubing was used for the coils, but Mr. Fishman discovered that he could achieve plenty of efficiency in the same house with the same amount of pipe by cutting the size to three-quarter-inch. The radiant heating system, which is automatically fired by gas or oil, is one of the best selling points of the houses.



by Mass Methods Keeps Costs Down



MAURICE J. FISHMAN

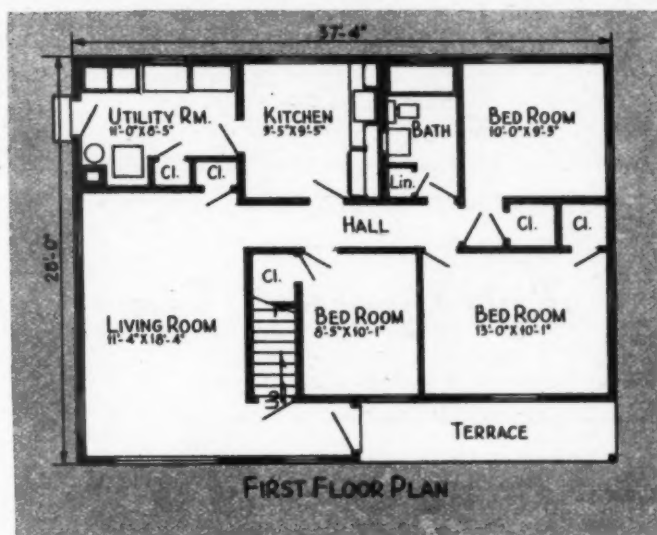


TYPICAL 3-bedroom house selling for \$11,000. Floor plan below

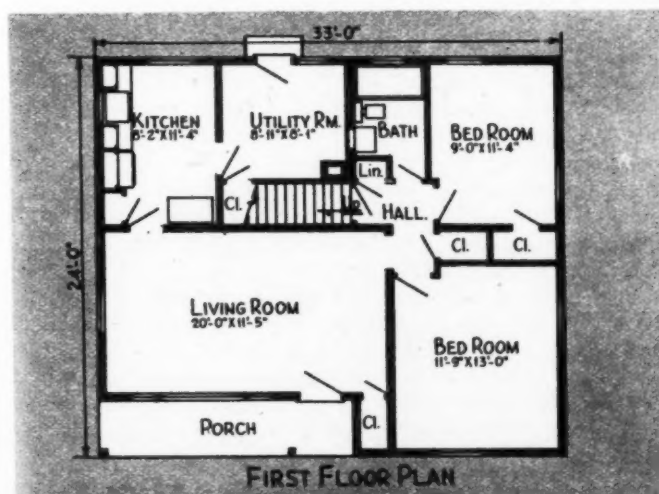
The unfinished second floor with its built-in finished stairway, is heated by hot water convectors when owners decide to finish up that portion of the house. These convectors are heated by the same plant as the radiant heating coils in the concrete slab, under the first floor.

There are a number of three bedroom houses included in the project along with the two bedroom houses. The three bedroom jobs sell for \$11,000, and have the second floor unfinished like the two bedroom houses, with wiring and heating pipes stubbed to the second floor. Judicious use of a number of elevations, along with basic plan reversals, give good variety. The occasional use of brick and stone, along with large well-proportioned and well-placed windows, further remove any semblance toward monotony in this Parma Heights project. Usual exterior covering is bevel siding and asphalt shingle roofs.

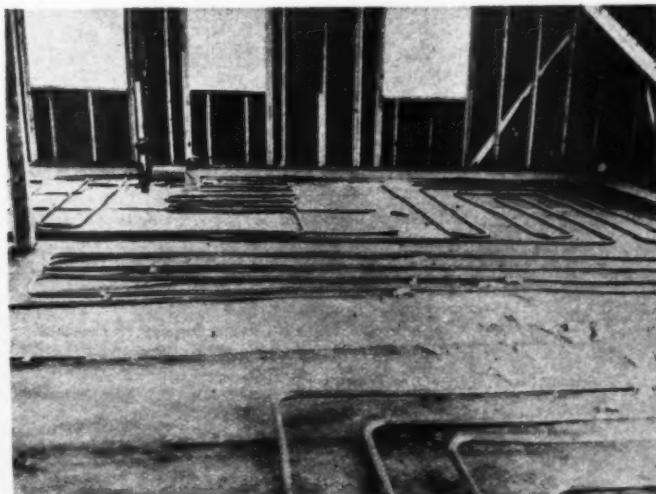
Roof sheathing is plywood and insulating board sheathing is used for the sidewalls. All windows and doors are weatherstripped and attics are insulated with mineral wool. Interior walls are plastered and floors are covered with asphalt tile. Bathroom equipment is Briggs Beautyware and includes a tub and shower. Bathroom walls are covered with Armstrong's Monowall and the floors are asphalt tile. All kitchen cabinets required on the project are being made in the woodworking shop on the site. About 150 houses will be finished this year.



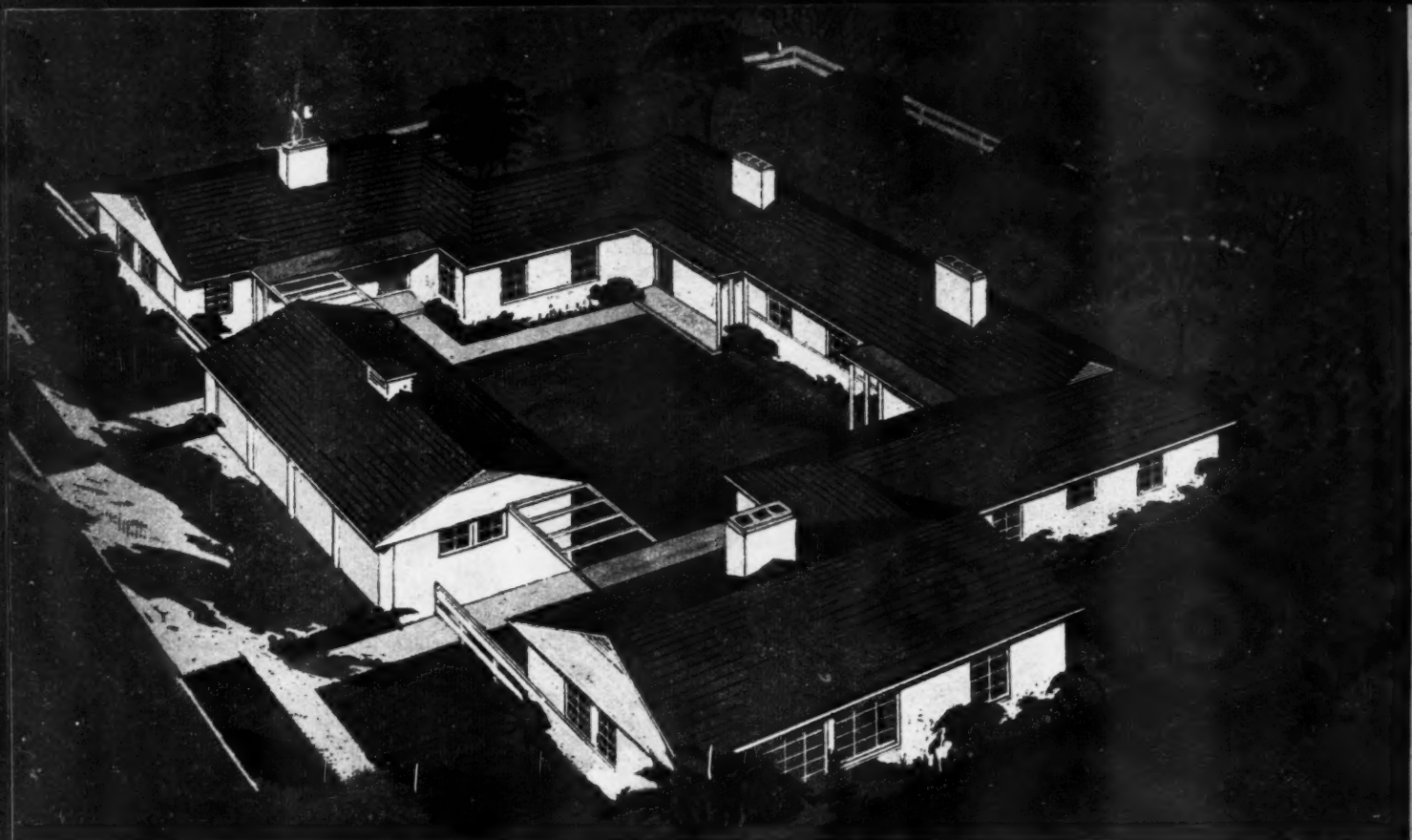
The firm started operations as the Precision Housing Corporation, but recently changed the name to Perma-Fab Homes, Inc. Mr. Fishman is president and Fred H. Kromer is vice-president.



PLAN for \$10,500 2-bedroom house shown at top of opposite page



THREE-quarter-inch copper tubing is used for radiant heating



SPACIOUS living and privacy approximating that provided by a single unit are possible in any of four units in this structure

Economical Four-Unit Garden Apartment

Anicka
BLUEPRINT
Number 11

FOR those who desire the combined advantages of community living, a country estate, and the compactness of an apartment, Walter T. Anicka, architect of Ann Arbor, Mich., has designed the garden apartment group which is illustrated on these pages. The entire structure, including the garage, is designed for construction on a lot 132x100 feet. This results in giving each family the equivalent of a lot 33 feet wide and 100 feet deep.

The apartments, all contained under one continuous roof, are so arranged that each family has control of its own recreation and playground functions, and enjoys the advantages of vision from within the apartment comparable to that of an estate owner.

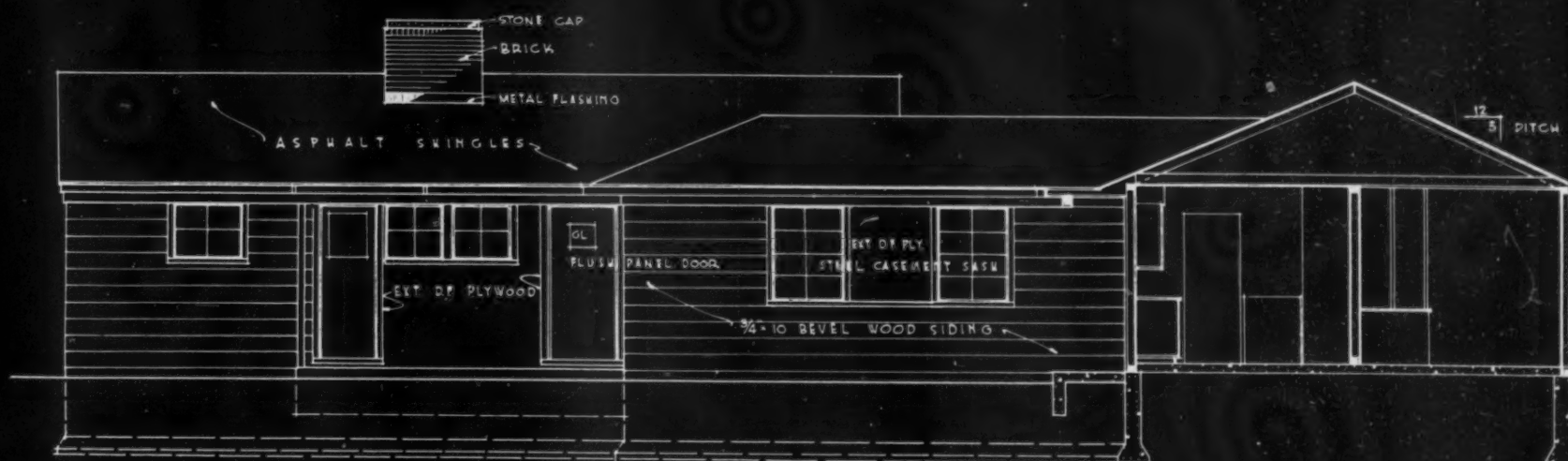
The architect's motive in designing the group was to provide accommodations for families, long used to city living, but desirous of the advantages of country life, without giving up the familiar contacts of close neighbors. Although the unit can be, and probably should be isolated from immediate neighboring structures, to afford a sense of seclusion and privacy, close

contact with carefully chosen neighbors is assured.

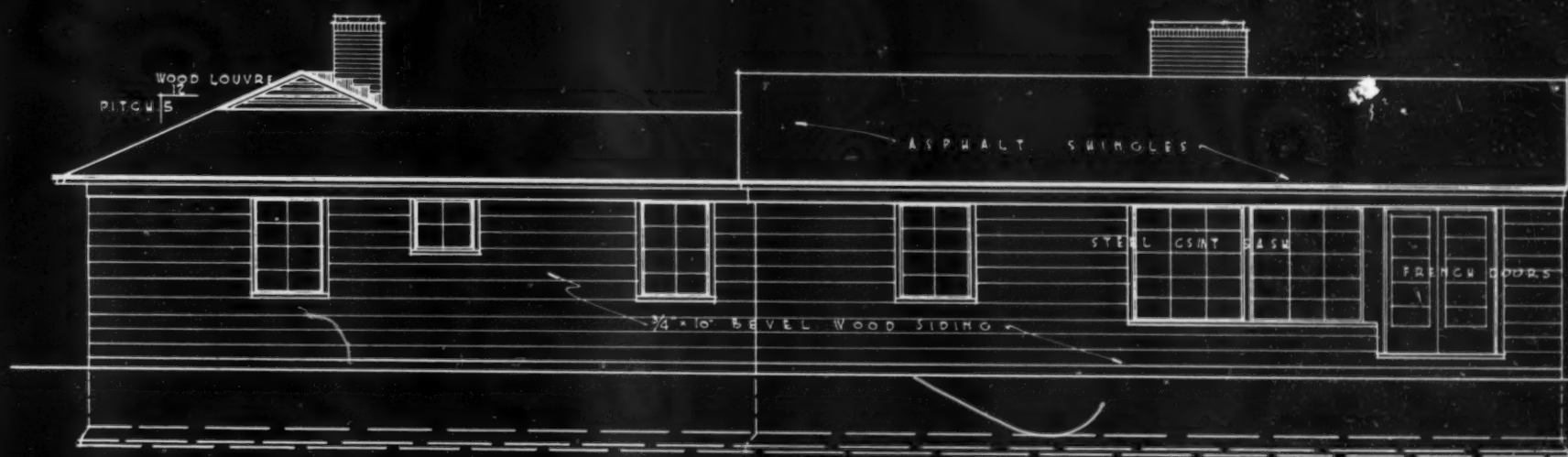
Each apartment is so arranged that a basement can be provided under a portion of it, with a stairway leading down from the utility room. When a partial basement is provided, forced warm air heat is used. In the apartments having no basements, radiant hot water heating systems are installed. Apartments are located in the unit so that cross ventilation is provided in each one. Keeping in mind that one of the paramount advantages sought by owners or renters is light and air, the architect provided ample fenestration. It will be noted that the design is symmetrical about an axis perpendicular to the road, thus providing a pleasing appearance.

The separate structure in the foreground is a garage, providing private accommodations for one car to each family. The location of the garage, and limitation of garage facilities to a single structure, minimizes driveway construction, and reduces the amount of sidewalk to a minimum. The design is fine for lots near town-limits.

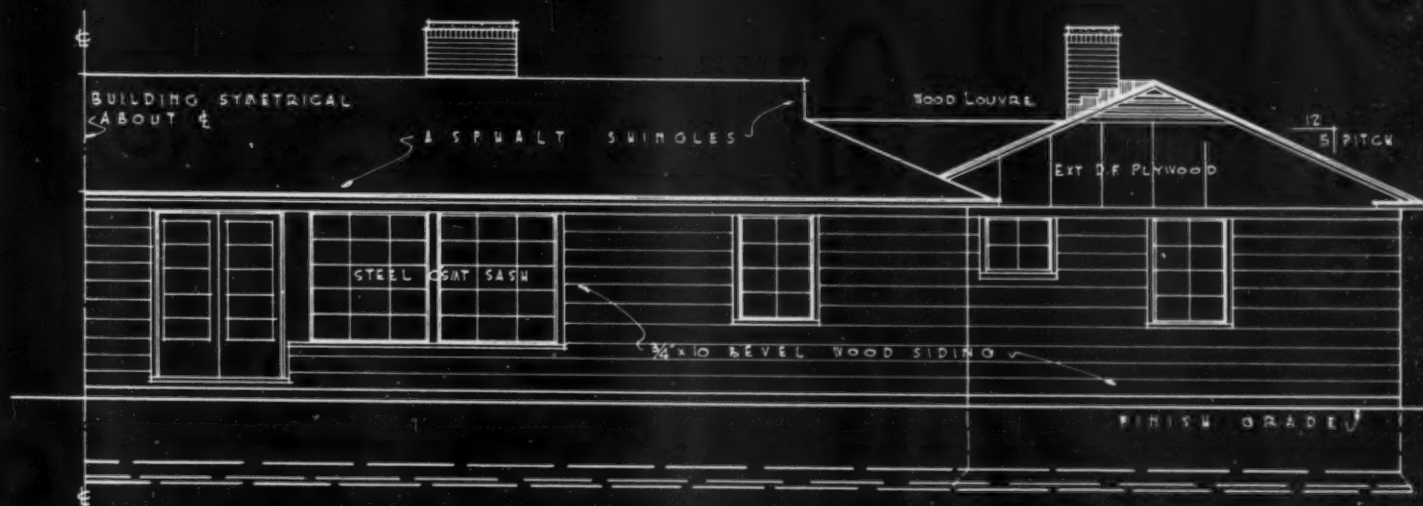




ELEVATION A-A



SIDE ELEVATION

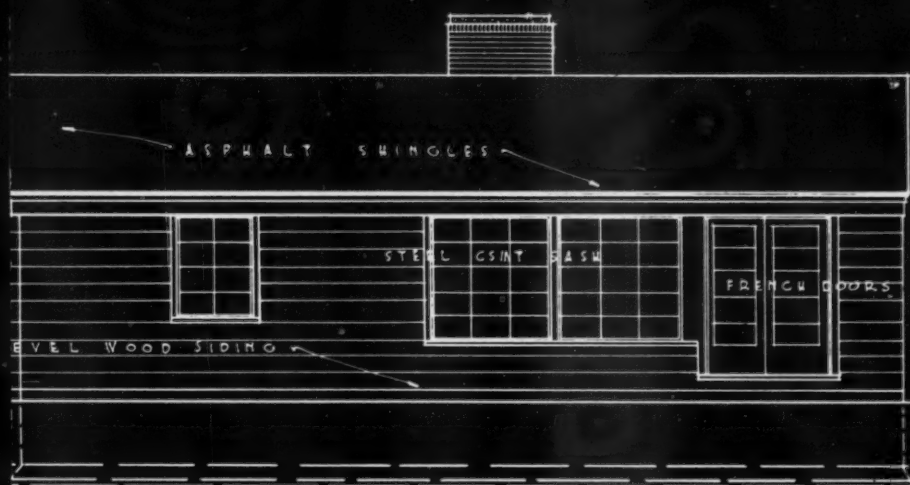


REAR ELEVATION
SCALE 1/8\"/>

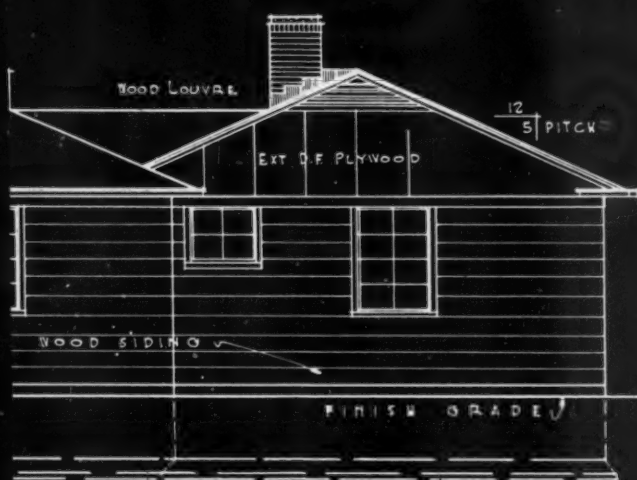
DESIGN No. AB 124
AMERICAN BUILDER BLUE PRINT SERIES
Designed By
WALTER T. ANICKA.
Ann Arbor, ARCHITECT
Michigan
Simmons Boardman Pub. Corp. 105 W. Adams St. Chicago



SECTION A-A



ELEVATION

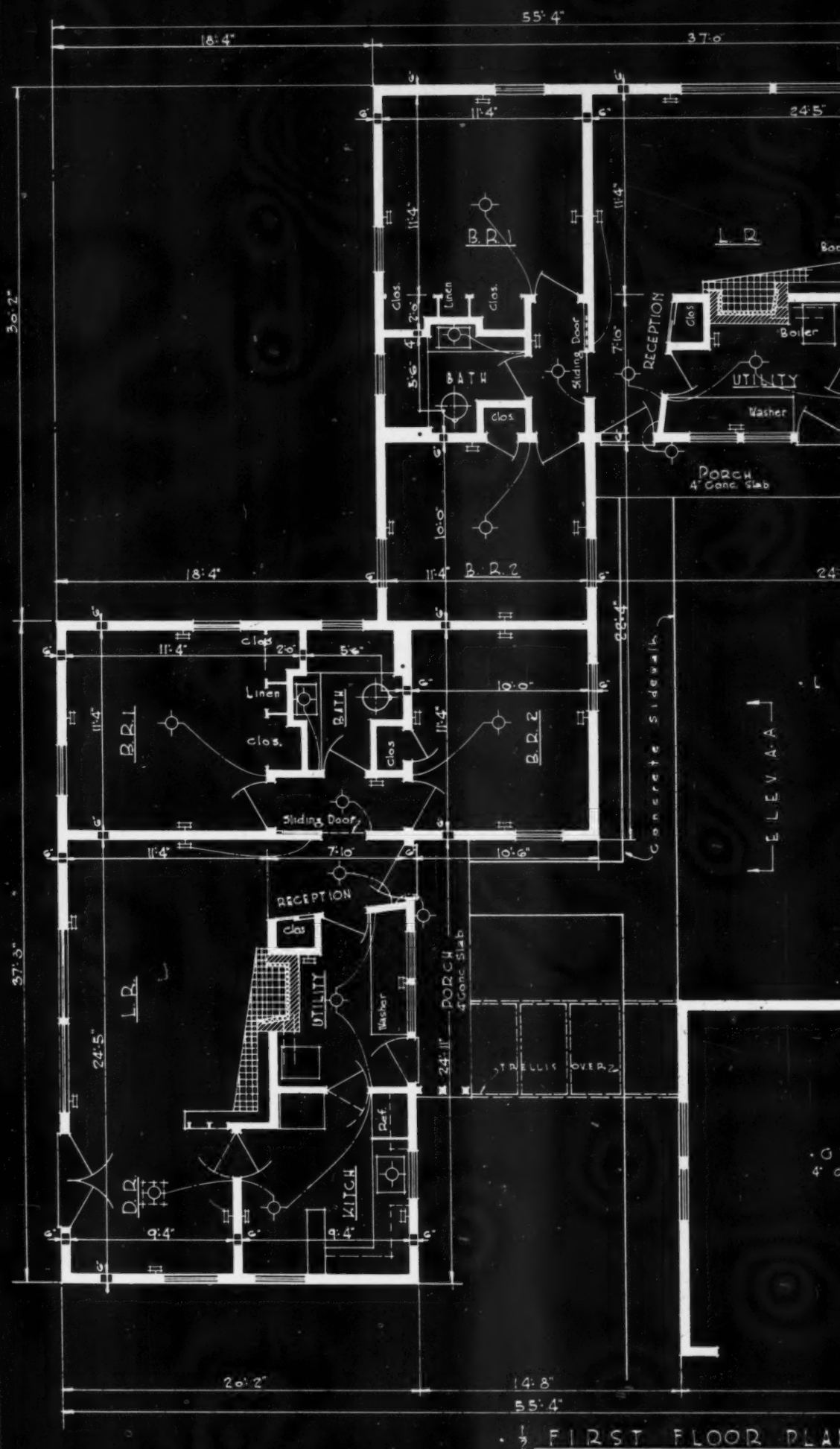


ELEVATION

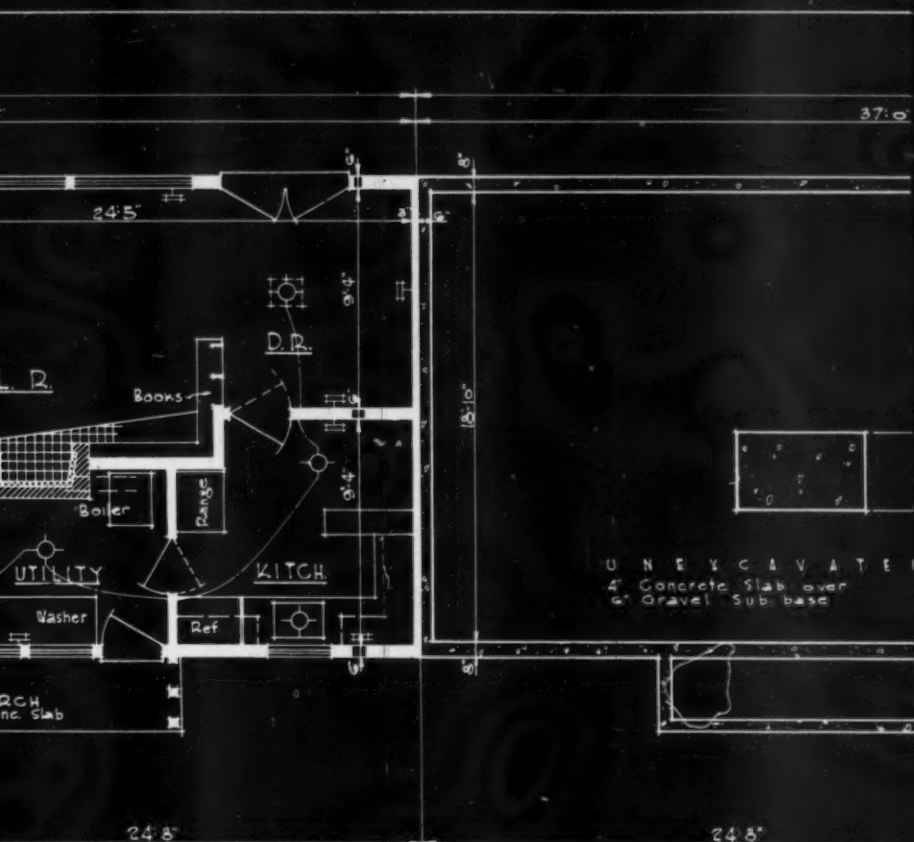
1/8" = 1'-0"

DESIGN No. AB 124
 AMERICAN BUILDER BLUE PRINT SERIES
 Designed By
 WALTER T. ANICKA.
 Ann Arbor,
 ARCHITECT.
 Michigan.
 Simmons Boardman Pub. Corp. 105 W. Adams St. Chicago, Ill.





1/2 FIRST FLOOR PLAN



OR PLAN.

$\frac{1}{2}$ FOUNDATION



PLAN.

$\frac{1}{2}$ FOUNDATION PLAN.

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GRO



VIEW showing the three completed homes. Note the expansive lawns between houses

MEADOWOOD—Acre Estates

Former large North Shore estate succumbs to march of progress. Area is subdivided into one acre home sites

ACTIVITY in the form of new, quality homes has been going on since restrictions have been lifted on the large private estate of C. M. Leonard, in Lake Forest, Ill.

This estate comprising approximately 150 acres is being subdivided into 100 choice building sites by the owner, who is head of the large construction company of Chicago and New York which bears his name, and

of which Meadowood Inc., is a subsidiary company.

Under the supervision of Mr. Patterson, vice-president of Meadowood Inc., and who has been responsible for the design as well as the construction of the homes, the work has progressed in good order in spite of shortages in some of the basic materials such as shingles, siding, oak flooring, nails, and rocklath.



CHESTER A. PATTERSON,
vice-president, Meadowood, Inc.

Eight houses facing the main highway are now under construction. Of these three have been completed and sold for a price ranging between \$40,000 and \$50,000 each.

In the designing of these homes, it was the aim of the builders to develop an area of high class dwellings that would appeal to a discriminating clientele. The planning of the entire development has been pointed to this end. The houses follow a general architectural pattern of colonial design. All service pipes and wires are placed in conduit and run underground, thus eliminating the unsightly poles so prevalent in many communities. Each house has been placed on a site that contains at least one acre of ground.

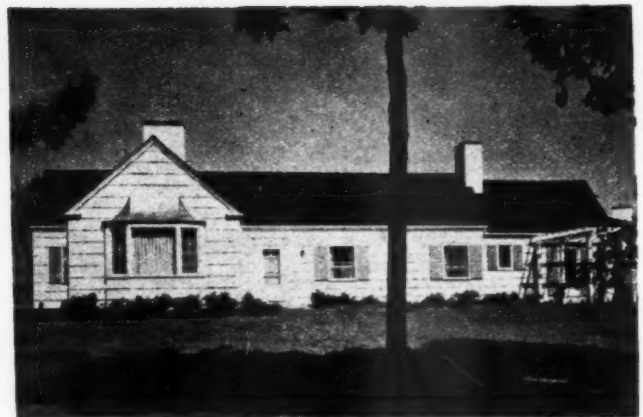
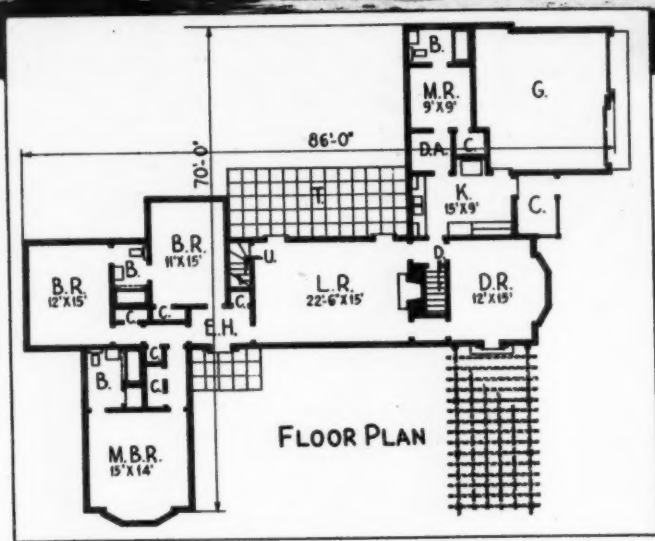
The purchase price of each house includes driveways, walks, complete landscaping, decorating of all rooms of house, refrigerator, ranges, home freezers, mercury switches and the



GROUP of buildings comprising the present estate, will be used as recreational center



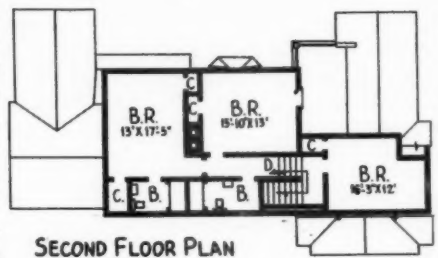
FRONT and side view of rambling one-story house of modified colonial design. Exterior walls are covered with wood shakes painted white and spaced approximately 12 inches apart. Generous space for living activities



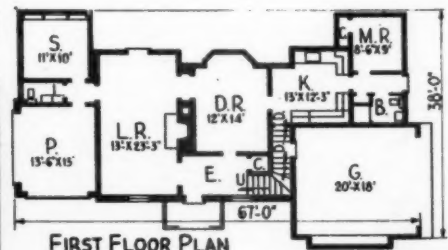
latest features of home development that can be obtained. In addition, a service is maintained by the developers to render assistance and aid to the home owner in the upkeep and preservation of his property.

The group of buildings comprising the present estate are centrally located on the 150 acre site. Designed in the Normandy farm house style, these buildings will be quite adaptable to eventual contemplated conversion into a community club house or recre-

ational center. These buildings are now used as construction offices, storage areas, and shop facilities, where precutting of dimension lumber, as well as the assembly of much of the interior finish such as bookcases, special woodwork and screens are done. Stock items which include doors, window frames and sash, and kitchen cabinets are purchased from manufacturers. All types of power equipment, including DeWalt saws, Skilsaws, Delta joiners, Walker-Turner drill



SECOND FLOOR PLAN



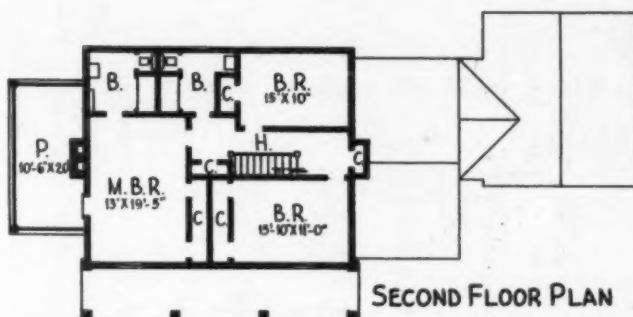
FIRST FLOOR PLAN

TYPICAL colonial exterior and plan with center entrance arrangement. Exterior walls are covered with wood shakes painted white and a veneer of stone on first floor front. Ample provision is made in this two-story and basement house for all activities. Emphasis is placed on the garden view by using large glass areas in rear windows





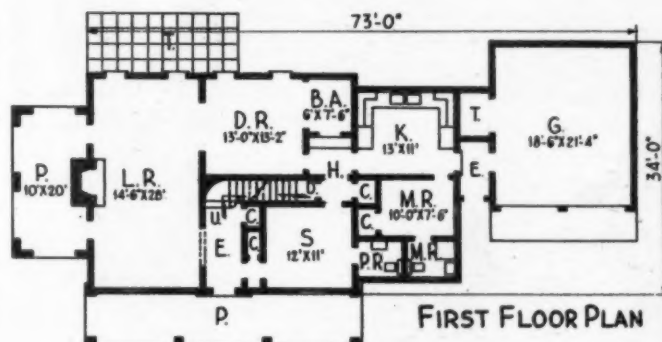
THIS well proportioned two-story colonial house is reminiscent of the deep south in its application of the large portico across the front. Exterior walls of this house, except for brick veneer on the front, are also covered with white painted wood shakes. Large expanse of glass across the rear wall of the main rooms, opens rear to the gardens beyond



press, and sanders, are used in the shop and on the job site.

All yellow pine framing lumber used in the construction of these houses was obtained from the owner's forests located in South Carolina. There, it is cut and stored for future use. All the various phases of the work involved in building, is done by men within the organization, except for the pipe trades and plastering, which is done through sub-contract work. Interior wall finish throughout, including basement and garage ceilings, are three-coat plaster work.

The program for Meadowood Inc. was to have been 25 houses completed in 1947. However, because of difficulty in acquiring good, competent mechanics, and difficulty in obtaining much of the basic materials required, this program, of necessity, has been reduced to approximately 30 per cent of the contemplated number.



CONSTRUCTION OUTLINE

FOUNDATION—Reinforced concrete. **Dampproofing**—asphalt spray coat. **STRUCTURE**—Exterior walls—stone, brick, hand-split cedar shakes and red cedar bevel siding, 1x8 pine sheathing, 15# slaters felt, studs, rock lath and gypsum plaster, U.S. Gypsum Co. **INSULATION**—Exterior walls and roof—Cell-u blanket, Masonite Corp. **ROOF**—#1 Red cedar shingle. **SHEET METAL WORK**—Flashings, gutters and downspouts—16 ounce copper. **WINDOWS**—Wood D. H. and casements. **DOORS**—Six panel colonial. **GLASS**—D.S.A., plate and thermopane, Libby-Owens-Ford Co. **SCREENS**—Bronze wire. **WEATHER STRIPPING**—Windows—Sager metal master no-draft balance, Sager Weatherstrip Caulking Corp. **HARDWARE**—Dexter Hardware Co., Yale

& Towne Co. **GARAGE HARDWARE**—Barco overhead door, Barber-Coleman Co. **FLOOR COVERING**—Kitchen and breakfast room—linoleum, Armstrong Cork Co., bath room—ceramic tile, balance of rooms—selected red oak. **PAINTS**—Moleta Paint Co. **ELECTRICAL INSTALLATION**—Thinwall conduit, General Electric Co. **ELECTRICAL FIXTURES**—Lightolier Co. **KITCHEN EQUIPMENT**—Universal Range—Cribben & Sexton Co., refrigerator—General Electric Co., dishwasher—Kaiser Fleetwings Sales Corp., cabinets—wood. **BATHROOM EQUIPMENT**—American Radiator-Standard Sanitary Corp., Kohler Co., Crane Co. **HEATING**—Gas-fired, forced warm air system—Bryant Heater Co. Regulator—Minneapolis Honeywell Regulator Co.

Looking To The Future

Fort Wayne builder trains veterans to become full fledged building mechanics in the shortest possible time, while building three distinct subdivisions

MANY of the nation's homes are being erected today by the experienced operator or "merchant builder". Houses are being built complete, with all equipment, ready to move into, before being offered to the buyers.

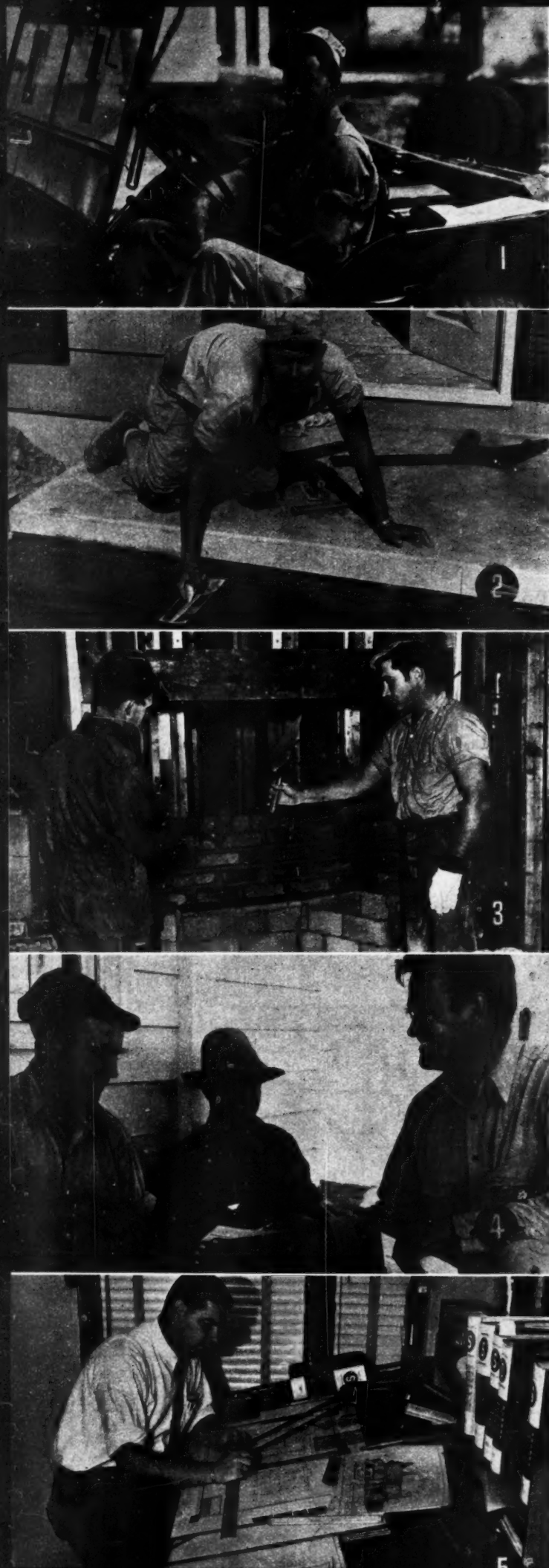
This method of operating has been employed by the John R. Worthman, Inc., successful home builders and subdivision developers of Fort Wayne, Ind. Currently they are building homes in the additions of Indian Village, North Highlands, and Harvester View. Stratton Place, a project in Decatur, Ind., is also rapidly being completed.

Starting in 1924 with the building of four houses, the Worthman organization has steadily grown, so that total production is now well over 700 units. This year's output is expected to total approximately 200 houses. Continued activity in the future is anticipated through the acquisition of additional acreage. This includes the 100 acres to be developed in the Southwood Park area of Fort Wayne.

Needless to say, a program of this size, requires a well-knit and smooth-operating organization and building crew. In the returning veteran, Mr. Worthman recognized a reservoir of replacements. He provided an intensive on-the-site training program for these men to supplement the dwindling supply of available building mechanics. Unhindered by any restrictions, veterans are placed on the job under the supervision and guidance of competent mechanics. These methods have produced full fledged mechanics in the space of 10 to 19 months.

In addition to the training program, Mr. Worthman has recently provided an incentive for each of his employees, through a profit-sharing plan, in which they participate after being with the company for six months. Twenty-five per cent of the profits of the company before taxes are taken out, are divided among the employees according to seniority and dollar income. The amounts received by each individual are pro-rated according to years of service. For instance, an employee having one year of service would receive 2 per cent of his yearly salary as a

TO the left and above are shown a group of ex-G.I.s, who in the space of a few short months have become competent building mechanics through the methods employed by the Worthman organization. With no previous experience, these men have become thoroughly indoctrinated in the duties of their respective crafts. The length of service of each is as follows: (1) Foreman, 6 years; (2) Cement finisher, 10 months; (3) Foreman (instructor) 10 years, Bricklayer (right), 14 months; (4) Left to right: carpenters, 15 months and 19 months, foreman, (former school teacher) 19 months; (5) Draftsman, 2 years; (6) Asphalt tile and linoleum layer (sent to Armstrong Linoleum school for training), 16 months; (7) Bricklayer assigned to fireplace design and construction after 14 months service





bonus. A two-year man would receive 5 per cent, up to 15 years of service when 33 per cent would be added to his yearly income. The question naturally arises: "How is a plan of this type workable in the building industry with its seasonable employment? This is answered by Mr. Worthman by having his men trained, not only for the job which they have been doing, but for the innumerable other tasks that need to be done on a building. In this manner, year round employment is assured. In addition, weekly bull sessions are held for all employees, where problems are discussed and suggestions offered, after which a social meeting is held.

Indian Village Addition

This subdivision consists of 138 lots, on which homes of two to four bedrooms, ranging in price from \$12,000 to \$20,000 each, are being built. The building lots vary in size from 60 to 75 feet in width. This is the better type of development where each home is individually designed in the one, one-and-one-half, and two-story types, done in either the ranch, contemporary or period designs. This project is adjacent to a group of 44 homes that were completed last year. The materials used in these homes include, Stanfab unit bath room and accessories, Insulite sheathing, Vapor-barrier lath, Curtis Woodwork, R O W windows, Winco aluminum windows, Kimsul insulating, aluminum and wood siding, and Certainteed asphalt shingles.

In Decatur, Ind., a subdivision of 150 homes is being

developed. Eighteen "Peaseway" and three conventional type houses have been completed. A modern, well located shopping center is in the plans for the near future.

North Highlands Addition

This project consists of 103 well known "Peaseway factory-built" homes. On this veteran project, 62 houses have been completed and occupied; 41 are under construction, these are being completed at the rate of 2 a week. All homes have a complete basement, walls of which are constructed of reinforced concrete. A convenient stairway is provided to the unfinished second floor. This type of house has been found to be extremely popular with the average veteran, in that it provides him with an area that can be finished off in his leisure time into additional rooms for his use. The "Peaseway" house is packaged and purchased complete, (less heating, plumbing, wiring and interior decorating.) These houses are not temporary in any sense of the word. They have been placed on fully improved lots, with paved streets, roll curbs and gutters, and public walks. The building lots average 55 feet in width by 140 feet in depth.

The houses all vary in design. This is accomplished by the addition of either dormers, porches, garages, extended vestibules, or breezeways, or a combination of several of these units. They are all standard items furnished by the manufacturer. Variety is also provided by variations in the sidewall covering and roofing materials. Pleasing effects have also been obtained by reversing the position



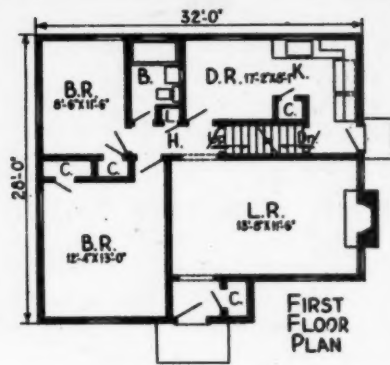
VETERAN with six months service is operating a Choate scraper, hooked up to a Bucyrus-Erie tractor with bull-dozer attachment



INTERIOR of shop showing eight 2x4's cut at one time with De-Walt Radial saw. Veteran operating saw has 18 months service



STREET view shows Indian Village project, a development of fine homes. Typical design of a story-and-a-half house in Indian Village shown below. White trim against a background of dark stained shingles presents a striking effect. House plan at left



TOP picture shows partial street view of the North Highlands project. Barber-Greene trench digger shown in foreground. Houses built on this development are "Peaseway factory-built." These are delivered in a complete package to the builder on the site, with the exception of heating, plumbing and wiring. Typical "Peaseway" house with expandable second floor area shown above. Floor plan of house at right indicates compact layout

of some of the houses and staggering others. These houses are now selling from \$9,650 to \$11,000, depending upon the number of additional items that have been incorporated.

The materials used in these homes include prefinished oak floors, except kitchen and bath which is linoleum; Mueller forced warm-air gas-fired furnace; metal kitchen cabinets; two-compartment sink; and kitchen ventilating fan. Kimsul blanket-type insulation is used on the second floor. Copper pipes are used throughout. All heat and plumbing runs are concentrated in one area in the basement to provide adequate space for utility and recreational use.

Harvester View Addition

In this project of 81 homes, there are two types, both being conventionally built. These are one-story houses placed on floating concrete slab foundations and employing site fabrication in construction of superstructure.



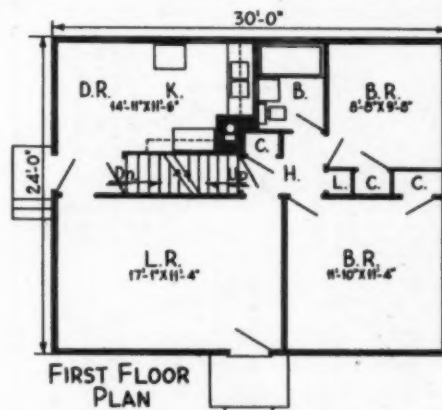


The first group consists of 48 houses having concrete floors waterproofed and painted, linoleum floors in kitchen and bath, forced-air gas-fired furnaces, 20-gallon gas automatic water heaters, copper plumbing, insulation, job-built kitchen cabinets, screens and combination doors. These houses are selling for \$6,700, including lot.

The second group consisting of 33 houses employ the "Ingersoll Utility Unit" with range, refrigerator, shower, metal kitchen cabinets and Bendix automatic washer. Concrete floors are covered throughout with asphalt tile. This group of houses is selling from \$7,950 to \$8,150, including the lot. The majority of these houses are sold with \$500 as a down payment, and financed on No. 505 G. I. loans. This project is located close to Fort Wayne's major industrial center.

The site fabrication on this project includes precutting and assembling of gable ends, window and door frames, joists, rafters, studding, bridging, and collar beams. The precutting shop is fed by conveyor from stock piles.

THE Harvester View project is shown in the partial street view below. Many design variations springing from a standard plan are clearly indicated in this photograph. The house shown above with its simple lines and well proportioned exterior is typical of this development. Compact plan includes "Ingersoll Utility Unit"



New Patent Lumber Cuts House Cost



BERT SLAVENS

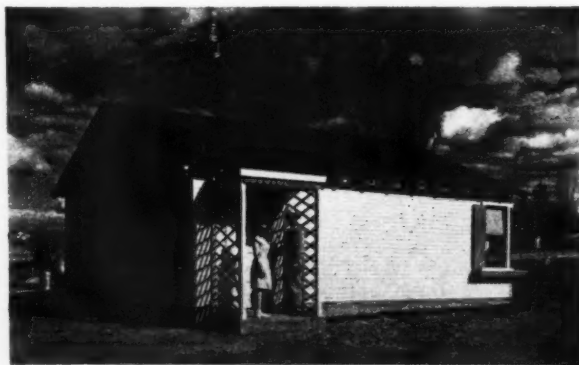
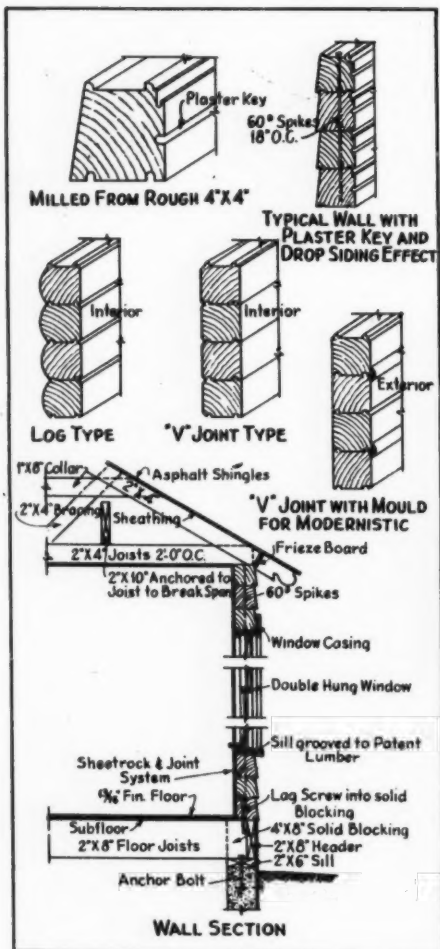
Colorado builder experiments with unusual type of lumber to reduce labor costs in construction of small houses



A NEW patent lumber has permitted Bert Slavens, builder in Cortez, Colo., to obtain substantial savings in building costs, avoiding trouble inherent in conventional frame construction. The Berger-Patent lumber is rough 4x4, milled by a special planer with siding-effect exterior, plain or plaster-key interior, double-tongued on the top and double-grooved on the bottom. In sidewall construction, these units are laid log fashion and nailed with 60d spikes.

Special details have been worked

out for openings and corners. Window sills are double-grooved to fit the patent lumber. At corners a 3x3-inch post is used with ends of the patent lumber mitered to fit. The special lumber is used for inside partitions also. Either plaster or dry wall interior finish can be used. Mr. Slavens has used both with equal success. By using Berger-Patent lumber, the Colorado builder has completed a veterans' housing project in Cortez and sold the homes profitably for \$6.96 a square foot of floor area.



LEFT: G. I. house built of patent lumber. Several different plans are used to vary exteriors

BELOW: The shop in which the new Berger-Patent lumber and other products are milled





Construction

Heating With Floor Furnaces

By J. L. Shank
Consulting Engineer

This is seventh in a series of articles appearing in *American Builder* on proper selection and installation of various types of heating systems. The one-story house used for floor furnace engineering appeared in the July 1947 issue as *Anicka House No. 7*

FLOOR furnaces are a relatively new method of heating. Beginning rather humbly in the Southwest about twenty years ago, and usually considered for use in mild climates only, their use has gradually spread throughout the entire United States and Canada. Severe climatic conditions, however, require the use of large floor furnaces or more of them. A survey of installations has proved that they will do a job of heating equally as well in Minnesota and Wisconsin as they will in Louisiana or Texas.

The simplicity of floor furnace heating systems has many virtues, the most important of which is the low cost of installation. To the average person, a floor furnace means a low cost, automatically-controlled, automatically-fired central heating system. In this day of high building costs, the floor furnace is one solution to the cost problem.

The one-story and ranch type homes are easily adaptable to the use of floor furnaces. Also, the open planning used today permits good circulation of heat to several rooms from a single unit. In large homes, zoned heating

may be readily achieved through the use of several units, each individually controlled.

No ducts are required in installing floor furnaces. The result is a lower initial cost than that required with any other type of warm air heating system. The floor furnace requires no basement and does not utilize any of the usable space in a room. Thus an indirect saving is effected which acts to further lower cost.

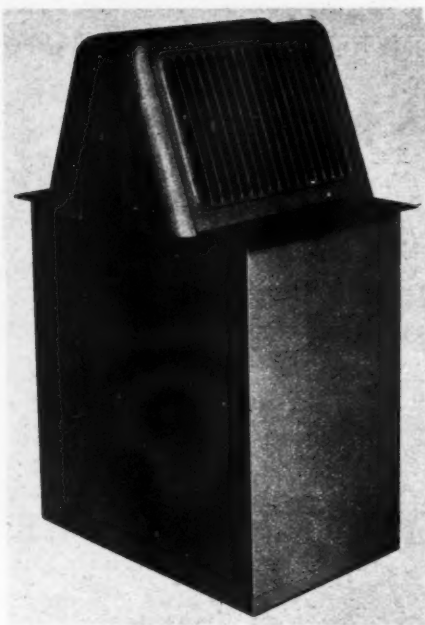
The floor furnace is a package heating system. The installation is very simple and requires very little skilled labor to install. With the shortage of steel, as well as the cost of skilled labor, the floor furnace becomes very attractive to the ultimate consumer who is buying at a price.

Many builders compare the modern floor furnace with the old conventional pipeless furnace. There is, however, a considerable difference between the two. The pipeless furnace produced an ample amount of heat, but results were not gratifying.

In reality, the only similarity between the pipeless furnace and the floor furnace, is that both are installed without ducts. The pipeless furnace

was not automatically controlled and usually burned coal as a fuel. Most of the pipeless furnaces were constructed of heavy cast iron sections encased in a galvanized metal casing, and connected to a cast iron floor grille. The restrictions through the grille and casing caused the air to flow to and from the furnace at a very sluggish rate. This resulted in the heated air becoming extremely dry and hot. The natural flow of the heated air was to rise to the ceiling, and stay there until it cooled sufficiently to drop to the lower room level. The result was that a considerable amount of the heat was lost through the ceiling and did not materially aid a person's comfort.

The floor furnace bears very little resemblance to the pipeless furnace other than the outlet grille from the unit. The circulation and heat distribution are given prime consideration in floor furnace design. The units are usually constructed with a capacity to heat four or possibly five rooms in a well-constructed home. If the home is larger than four or five rooms, two or more furnaces are usually installed. This will assure better distribution of heat. Floor furnaces are not usually



THIS is a dual-wall type floor furnace, designed to set under the wall between two rooms. It is especially desirable where there are no inter-connecting openings

recommended for two story buildings, since it is difficult to provide for units to be located in the second floor. Therefore, for all general purposes, a floor furnace heating system should be confined to one-story buildings.

Much has been learned in the recent years about the flow of air. The well-designed floor furnace heating system is capable of circulating all of the air in the heated space from three to five times an hour. This rapid circulation of heated air carries to all corners of the space but the velocity is still not such that drafts are created.

The floor furnace looks very much like a sheet metal box suspended below the floor. The grille through which the cool and heated air passes is all that can be seen above the floor. The removal of the grille permits access to the inside of the furnace. The heating unit in the center usually consists of a combustion chamber together with one or more radiator sections, to give the maximum surface for heat transfer into the small space. The combustion chamber and radiator

section are usually called the heating unit and are enclosed in a metal casing called the inner liner. There is also a space between the inner liner and the outside casing which forms the channel through which the cold air is returned from the floor. The results are that the outside casing is always cool, prevents the waste of heat and assures safe operation of the unit.

The operation of the floor furnace is very similar to the operation of any gravity warm air furnace. The heavy, cool return air gravitates to the bottom of the furnace pushing the warm temperature air ahead of it into the central warm air heating section which is the combustion chamber and radiator section. The temperate air then passes over the combustion chamber and radiator sections causing it to become hot, light, and expanded. The expanding force of the heated air thus causes it to circulate. In order to obtain a maximum circulation power, it is necessary for the furnace to be scientifically designed. The areas of the heated air and cold air passages

HOW TO USE THE CONDENSED METHOD HEAT LOSS FACTORS

Quantities of heat are measured in units called British Thermal Units (abbreviated BTU).

Heat is lost from a warm building through all of its surfaces exposed to lower temperature. This is called "transmission losses." Heat is also lost due to wind blowing through cracks around windows and doors. This is called "infiltration losses." Total heat loss of a building is the sum of transmission losses plus infiltration losses.

A The first step is to find how much heat is lost by transmission. Calculate the areas in square feet of all exposed surfaces of the room or building including:

1. Window and outside door area (combined).
2. Net outside wall (gross wall area minus item 1).
3. Ceiling area (below unheated room or attic space). Inside walls adjacent unheated rooms.
4. Floor area (if space below floor in not heated).

Each of the above areas should then be multiplied by the proper factor from one of the Condensed Method tables.

B Next, estimate infiltration losses. This depends on the amount of cold air blown into the house, which is in turn dependent on the size of the window or door and the width of the crack around it. Simply multiply the area of windows and doors already calculated in Step A by the infiltration factor selected from Table 5. Also, since there is more air leakage through door cracks than through window cracks, allow an additional 1000 BTU for each outside door. Add 3000 BTU for each fireplace.

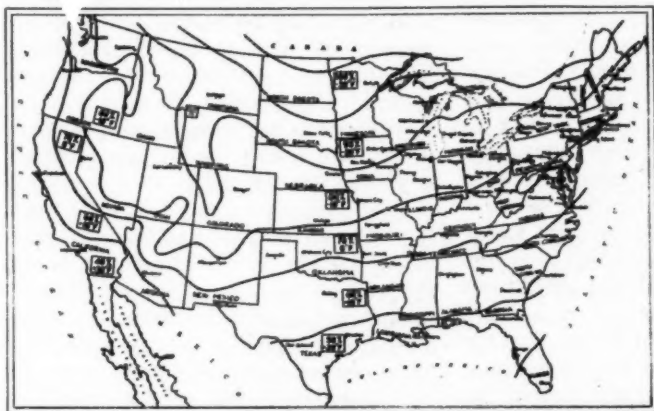
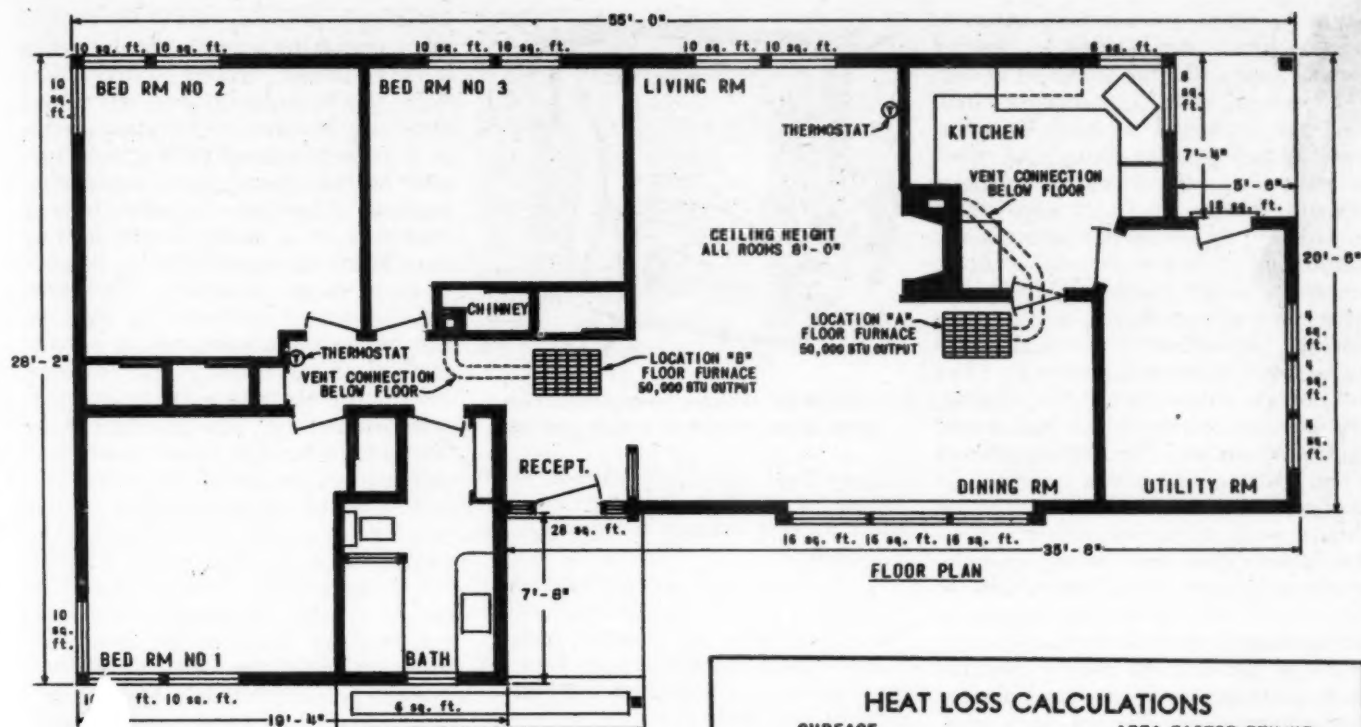
C Add the infiltration losses (Step B) and the transmission losses through the windows, walls, etc. (Step A) all together. The sum is the heat that would be lost from the room or building—if the temperature difference between inside and outside were 100°. In other words, this is the amount of heat it takes to maintain 70° inside when the outside temperature is 30° below zero, which would occur only in the very coldest sections of the United States.

D Heating requirements are naturally less where the weather does not get so cold. The average minimum temperature in Dallas, Texas, for example, is only 10° above zero. The "design temperature difference" between inside and outside would be 70° minus 10° equals 60°. Therefore, the heating requirement is only 60/100 or 60% of the amount based on 100° TD. The map at the right is zoned according to winter design temperatures, and gives percentages by which results from Step C should be multiplied to find actual heating requirements.

"CONDENSED METHOD" HEAT LOSS FACTORS *

1. WINDOWS & DOORS		Multiply sq. ft. by:
a.	Without storm sash	113
b.	With storm sash	75
2. OUTSIDE WALLS (NET)		Multiply sq. ft. by:
a.	SOLID MASONRY — (Brick, stone, etc.) with plaster applied direct to inside surface of masonry wall.	45
b.	AVG. FRAME—Brick Veneer—Wood Siding—Shingles or Stucco—with sheathing, bldg. paper, studs, lath and plaster	30
c.	FURRED MASONRY—(Same as 2a with air space between plaster and masonry wall)	
d.	INSULATED FRAME—Same as 2b—with 1" or less insulation board or blanket	20
e.	HEAVILY INSULATED—Same as 2b—with 2" or more insulation	10
3. CEILINGS & INSIDE WALLS		Multiply sq. ft. by:
a.	CEILING — Plaster on lath or wall-board. No floor above — Attic not vented	34
b.	Same as 3a — with 2" or more insulation	12
c.	CEILING of first floor room below unheated room on second floor	17
d.	INSIDE WALL adjacent unheated room	
4. FLOORS		Multiply sq. ft. by:
a.	Double wood floor — over cool basement or other enclosed space	15
b.	Same as 4a — but open space below floor exposed to outside	32
5. INFILTRATION (AIR LEAKAGE)		Multiply each sq. ft. of window and door area by:
a.	WINDOWS AND DOORS Average fit — Not weatherstripped	50
b.	Average fit — weatherstripped (or equipped with storm sash)	30
c.	Poor fit — not weatherstripped	140
d.	Poor fit — Weatherstripped (or equipped with storm sash)	43
e.	EXTRA FOR EACH OUTSIDE DOOR	1000
f.	EXTRA for air lost up fireplace flue	3000

* Above factors are approximate heat loss through each sq. ft. of surface with 70° inside and -30° outside.



WINTER temperature zone map of United States showing climate correction multipliers used in condensed method of calculation

HEAT LOSS CALCULATIONS

SURFACE	AREA	FACTOR	BTU/HR.
1. Windows and Doors.....	288 x 113 =		25,764
2. Net Outside Wall.....	1,070 x 30 =		32,100
3. Exposed Ceiling.....	1,174 x 12 =		14,088
4. Exposed Floor.....	1,174 x 15 =		17,610
5. Infiltration (Same Area as 1).....	228 x 50 =		11,400
6. Extra (Number of Outside Doors) 2 x 1,000 =			2,000
7. Extra (For Fireplace) 1 x 3,000 =			3,000

HOURLY HEAT LOSS—Based on 100° T. D. = 105,962
CLIMATE MULTIPLIER FOR LOCALITY

(See Map) 80%

ACTUAL HEAT LOSS at 10° Below Zero..... 84,770

THE floor plan shown at the top of this page shows location of floor furnaces, thermostats, venting arrangements and other details. Above is the calculation table showing the method of figuring heat loss for the home illustrated. This chart is used as the basis for design of the heating system shown here



THIS Anicka House No. 7 is a one-story ranch-type home well-suited for zoned floor furnace heating systems discussed here

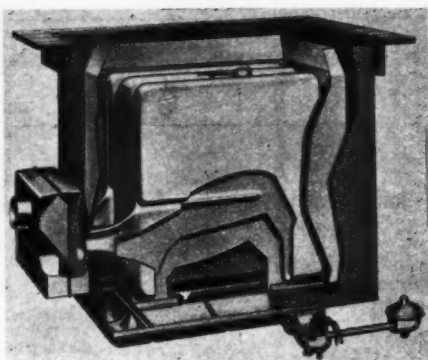
must be in a correct proportion to each other. They should be free of restrictions and quite generous in size. The well-designed floor furnace usually has rounded corner bottoms, streamlined heating units, and other aerodynamic refinements to facilitate air circulation.

Oil and gas burning furnaces are quite similar in construction with the exception of the burners and combustion chamber. Gas is the most popular fuel used with floor furnaces, although oil is used quite satisfactorily. Most oil-burning furnaces use the vaporizing pot-type burner which has proved to be successful. The development of the oil-burning floor furnace no longer restricts installation of floor furnaces to localities where gas is available. However, many installations today are using bottled gas in lieu of oil or where gas cannot be economically piped into a building.

Floor furnaces are usually operated with automatic controls, not only for convenience, but also for fuel economy. It is essential with a floor furnace installation, to locate the room thermostat where it will not be affected by cold walls, windows, or drafts. Precaution should be taken not to locate the thermostat on an unusually warm surface such as a chimney. The thermostat should also be located in the living room or dining room, as these are the rooms in which people are usually most critical about the comfort condition. The usual mounting height of the thermostat is at the breathing line when a person is seated. If the thermostat is mounted at a higher level, in all probability it will be necessary to maintain a higher temperature setting in order to create the desired comfort condition.

Just as with any other automatic oil or gas burner, the burner in a floor furnace is ignited by a pilot burner which operates continuously. The main burner lights whenever the thermostat calls for heat which causes the automatic main fuel valve to open. The burner is usually equipped with a safety shut-off device to stop the flow of fuel should the pilot light fail and go out.

In order to add flexibility to a floor furnace heating system, some manufacturers offer a dual-wall type unit. In place of the ordinary flat floor grille, a special dual-wall warm air register and return air floor grille are available. These units are designed to set under the wall between two rooms, and are especially desirable in structures where there are no inter-connecting openings. Difficulties, however, sometimes arise when trying to provide a suitable location for this unit. For appearance's sake, as well as

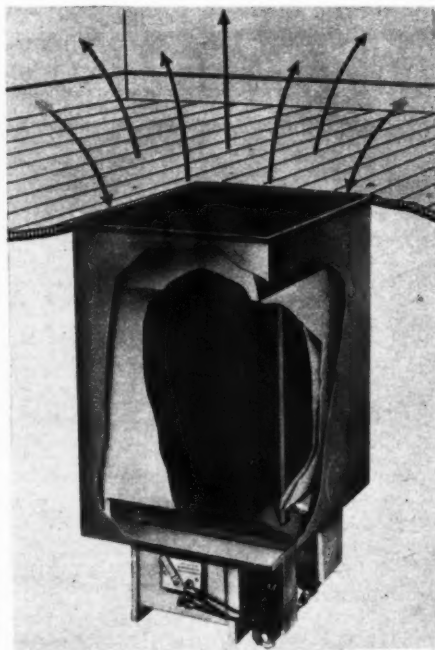


CUTAWAY showing basic design features of one model of a floor furnace

for practical operation, consideration should be given to this type of unit when a floor furnace heating system is planned.

Very little engineering knowledge is required for the design and installation of a floor furnace heating system. The primary application is that of common sense. Experience and knowledge of the equipment involved will, of course, assure a better ultimate overall result. Perhaps the essential points of floor furnace heating systems can best be illustrated as follows:

Any heating system should be capable of furnishing as much heat as the structure may require during the coldest weather. The amount of heat necessary depends entirely upon how fast the heat is lost from the structure. This in reality is called heat loss and depends upon several conditions—the outside temperature, the amount of exposed areas of the house, and the construction of these exposed areas. The calculation of the heat loss of the



COOL air flows from floor into separate chamber to come up through heating element

building is probably ninety per cent of the engineering involved in designing a floor furnace heating system. The heat loss calculation for any given structure, however, is the same whether it is to be heated with a floor furnace heating system, or by some other method. There are no critical design problems in a floor furnace heating installation that necessitate a detailed room-by-room analysis. Therefore, the condensed method for figuring the heat loss follows the same basic method as set forth in the National Warm Air Heating Code or by other accepted method. The calculations are set forth in the step-by-step procedure indicated in the calculation chart.

The architect and builder should consider a number of things besides the capacity required when selecting a heating system. It is necessary to decide whether gas or oil will be used for fuel and whether the floor furnaces shall be of the dual-wall or floor-grille type. Due consideration should also be given to the construction, quality, and reputation of the equipment selected. The reputation of the contractor, as well as his dependability and service facilities, should also be considered. It might be said that the equipment is no better than the workmen who install it, or the facilities available for service.

The output of a floor furnace heating system is the usable heat produced by the unit. The input is the theoretical amount of heat contained in the fuel that can be burned. Since a portion of the heat is necessarily lost and goes up the chimney as products of combustion, the output rating is usually about seventy per cent of the input rating. In other words if a floor furnace is rated at 50,000 B.T.U.'s per hour input, it will have approximately a 35,000 B.T.U. hourly output.

The size of the building as well as the arrangement has much to do in the selection of the floor furnace heating system. Three and four room residences are usually arranged so that they may be heated with a single system. Many small five room homes can be heated with a single system providing the arrangement is suitable. Anything larger than a small five room building will require two or more floor furnace systems. Two or more systems result mainly from the fact that the heat loss of the structure is too great for one system to furnish a sufficient amount of heat. Multiple installations of three or more furnaces in large homes are often used to achieve the greatest comfort condition possible.

Many buildings divide naturally into two or more groups of rooms or zones and are related to each other by

their use or the period of occupancy. The living zone could include a living room, the dining room, the kitchen, and perhaps an entry hall. The bedrooms would be considered the sleeping zone. In large buildings, the arrangement might be such that there would be three or more separate zones.

There are many advantages in heating a building divided into zones. Perhaps the chief advantage is the possibility of maintaining a different temperature or a uniform temperature throughout the various zones by a simple control installation. With floor furnace heating systems, zone control is quite natural. All that is required is to install an individual floor furnace in each zone with its own thermostatic control.

The floor furnace is usually installed in the room having the greatest heat loss—in an archway, between rooms in the same zone, or in a hallway which interconnects several rooms forming a zone. When planning a hallway installation, particular attention should be given to permit the passage through the hallway without stepping on the grille. Also, when making the installation in a hallway, at least one opening should be made which cannot be closed to prevent excessive heating of the confined space. Dual-wall furnaces are, of course, always located in the partition wall between two rooms.

The distance which the heat must travel, and the number of openings through which it passes, limits the amount of space that can be heated by one floor furnace regardless of the heating capacity of the furnace. The commercial standard for the maximum distance from the furnace to the center of any room, which it is intended to heat, is 15 feet. This maximum standard provides for the passage of warm air through one door or one archway opening.

On deciding the location of the floor furnace, it is well to keep in mind how people live. It is considered good practice to favor the living room over all other rooms which are to be heated. In other words, be sure that the living room can be overheated if so desired. On the other hand, it is possible to maintain a lower temperature in the bedrooms, as most people prefer them to be cooler than the living room. Thus, the distribution of the heat into the bedrooms is not too critical. Auxiliary heat helps considerably in obtaining the desired comfort condition in rooms which are not directly heated by the floor furnace. As an example, a kitchen range or a water heater in the kitchen dissipates a considerable amount of usable heat. With bathrooms, a small auxiliary heater is

usually required to obtain the maximum comfort condition. Buildings with basements are frequently heated with floor furnaces, but should the basement require heat, it will necessitate the installation of another heater. The reason for this is, that there are no pipes through which heat is lost, as is experienced in an ordinary heating system. Nor is there any heat loss through the casing, as the cool air returning to the floor furnace system is all that comes in contact with the outer casing.

An important point to consider, when locating a floor furnace heating system, is to keep it as close as possible to the chimney. Gas furnaces must be vented to get rid of the products of combustion. Vaporizing oil burners depend upon the chimney draft to pull the air for combustion into the burner. The resistance through a long horizontal vent pipe considerably reduces the amount of available draft. The vent pipe for oil-burning furnaces should not exceed in length in feet, one-half the height of the chimney to which it is connected. The vent pipe for gas-burning furnaces should not exceed in length in feet, three-fourths of the vertical chimney height to which it is connected. The number, size, and location of chimneys should be coordinated with the floor furnace installation. The construction of the chimney for a floor furnace is the same as would be required for any other type of heating unit. It should be well constructed, and have a clay tile lining of a diameter and height recommended by the furnace manufacturer. Better results are obtained from chimneys that are located inside a house than those that are outside, exposed to the cold weather. With floor furnace installations, whether they are gas-burning or oil-burning, the chimney can be made to function exceptionally well by providing and installing a metal cap designed to prevent down drafts, and which will increase the normal draft.

The following procedure is usually used when installing a floor furnace in a new building. A framed opening is provided in the floor with the opening allowing $\frac{1}{4}$ -inch clearance around the furnace casing. If it is necessary to excavate, 12 inches or more clearance should be provided between the ground and the bottom of the furnace. An access and a combustion air inlet opening should be provided under the house. With this preliminary work taken care of, all that is necessary is to uncrate the floor furnace and set it in the framed opening, screwing or nailing the casing to the floor joists or headers. The vent connection, full

size of the furnace vent opening, should be made to the chimney with all of the joints made tight, and with a slight upward pitch in the vent pipe of 1 inch per lineal foot. The fuel line, whether gas or oil, should be run from the source of supply and connected to the furnace. If automatic controls are used, they should be located and connected to the furnace. Upon completion of the installation, the furnace should be lighted and checked to make sure that it is correctly adjusted. The people who are using the system should be shown how to operate the equipment.

The building selected for the typical example of a floor furnace installation is the Anicka house No. 7 shown in the July issue of *American Builder*. This house was selected because it is a typical rambling one story residence for which a zone system of floor furnace heating is very readily adaptable. However, the basement shown on the original plan was omitted, as it is not needed with a floor furnace installation. The original stairway, service room, and lavatory were thus combined into one large utility room. A chimney, however, was added to provide for the venting of the floor furnace located in the hallway. Construction in all other details are according to the original Anicka plan. Floor furnaces are seldom recommended or installed in two-story buildings.

The first step involved in the heating of any building, whether with a floor furnace or otherwise, is to determine the heat loss. Therefore, to stay in line with the previous articles, the heat loss calculations were based on an inside temperature of 70 degrees F. with an outside temperature of 10 degrees F. below zero. The heat loss factors were taken from the condensed method tables as indicated and applied to the construction as shown for the original plans. The infiltration is based on average fitting windows and doors without weather stripping or storm sash. The factor used for the windows was 113. The walls, based on average frame construction, were 30. A factor of 12 was used for the insulated ceiling. The factor for the floor over the enclosed space was 15. An infiltration factor of 50 was used for the average and non-weather stripped openings.

It should be noted that the heat loss based on 100 degrees F. difference between inside and outside is 105,962 B.T.U. an hour. Thus, at 10 degrees F. below zero, the gradient difference between inside and outside temperatures is only 80 degrees. Consequently the heat loss at the desired condition is only 80 per cent of the amount cal-

(Continued to page 134)



LIGHT-WEIGHT, insulating concrete forms roof, walls and floor of house, one of four pioneered, designed and built by Burt Smith

Homes of Poured Vermiculite

FOR the past seven years, experiments of a very practical nature in the utilization of vermiculite concrete have been carried on privately by Burt Smith, an engineer and builder of pioneering spirit, operating in and around Portland, Ore. While the Vermiculite Research Institute, Chicago, Ill., has been scientifically testing wall panel strengths and insulation values by laboratory methods, Smith has gone ahead, as a builder would, to solve the problems of actual home building, for low-cost houses, using this light-weight-aggregate concrete.

Starting in 1940, he developed his ideas for pouring what is virtually an all-mineral house, with floor slab, walls and roof of one to six Portland cement vermiculite concreté. He built the first in 1945 and now has four completed and undergoing the test of actual use.

The forest retreat of Mr. Lansing Laidlaw on the Tualatin River near Oswego, Ore., illustrated here, is the latest of these new-type houses. This is a two-bedroom home in U-form, 36 foot square, built from plans prepared by Margaret G. Fritsch, architect. It is electrically heated, with the electric black heat elements placed in trenches under the floor.

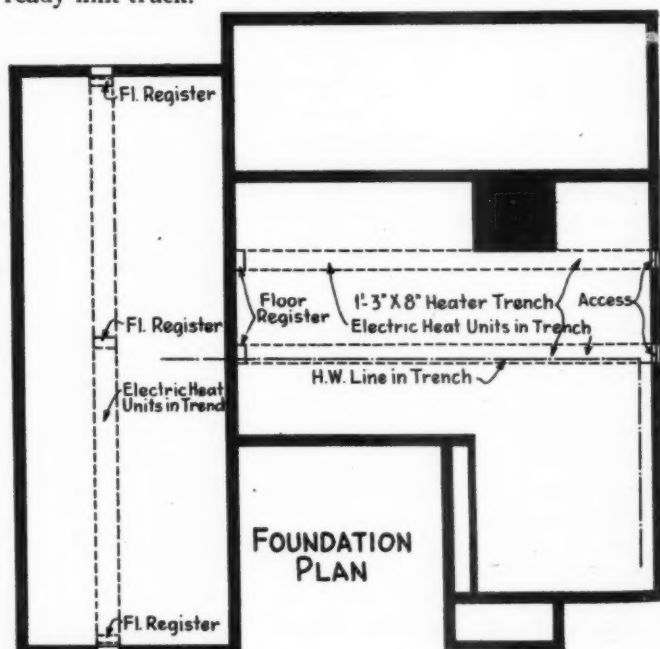
Inspection of the Laidlaw house, as well as another one of Smith's experimental four, and interviews with their owner-occupants showed enthusiasm and satisfaction for the novel-type construction of these homes. The construction is standing up well and is attractive both outside and inside. Heating costs are low. Insulation and ventilation were reported as exceptionally good, both for hot and cold weather.

The construction method developed by Burt Smith for these vermiculite concrete houses makes use of plywood forms, with window and door openings cored out, so that the walls and partitions can be poured in one operation. Walls are 6 inches thick and are reinforced with rods or wire net. It was found that there is some shrinkage of the vermiculite material, but the wire reinforcing prevents cracking.

The ceiling-roof scheme which Smith devised is really the key to his low costs on these houses. Each room has a natural dome, framed by 4x6-inch cedar or fir timbers around a central panel. The plywood forms for pouring

the roof are hung to these beams and the reinforced slab is poured, 10 inches thick at the base where it ties into the wall and 6 inches thick up at the top. Glass block is inserted in the central panel for illumination in each room, a very pleasing effect. When the forms are stripped, the concrete surface is found to be smooth and firm but slightly porous, like acoustical plaster. It is tinted direct with Laux resin-base paint and the wood beams are stained in any color desired. The outside roof surface is heavily painted with fibrous asphalt, available in green, red and black, which acts as an effective weather-proofing agent.

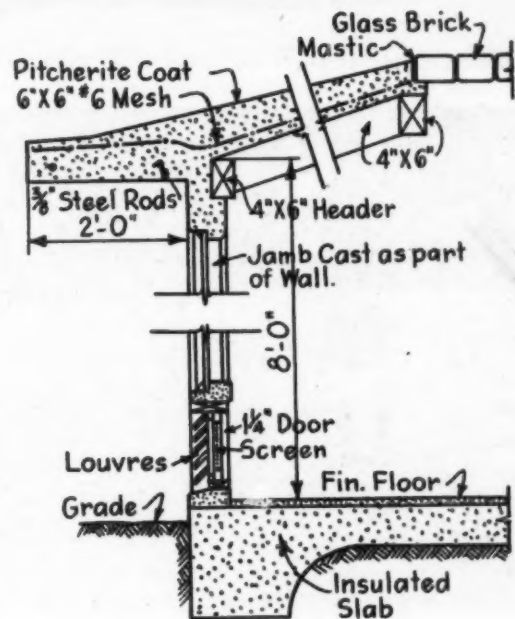
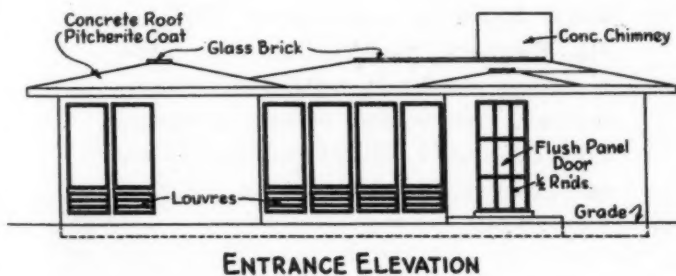
In commenting on these houses, Smith estimated that he can save substantial sums, as compared with frame construction at present prices. The Laidlaw house required 500 sacks, 2000 cubic feet, of vermiculite, he said; and pouring was completed in one day by a "mixermobile" ready-mix truck.



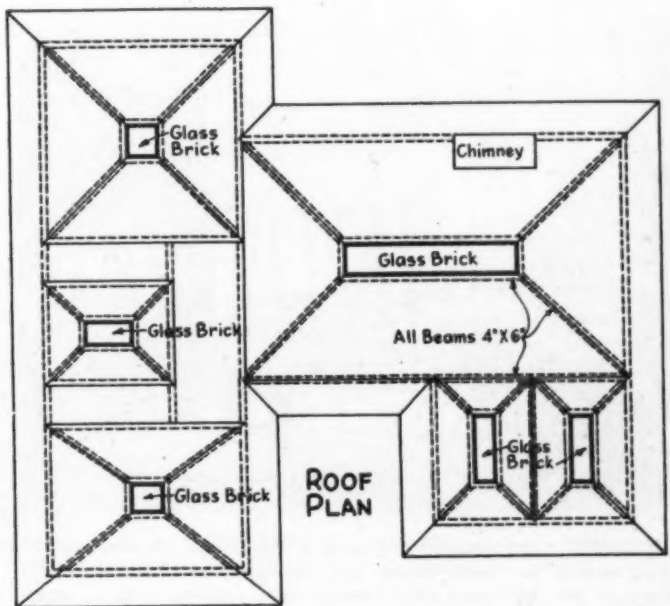
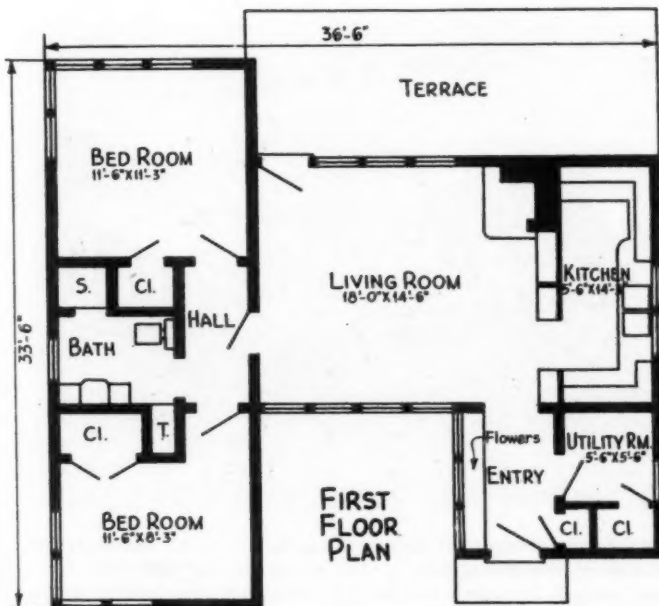
LIVING ROOM shows dome-ceiling roof supported by 4x6-inch beams around a central panel. Each room has a similar structural ceiling. No plaster is used, wall and ceiling tint applied direct to inner face of concrete



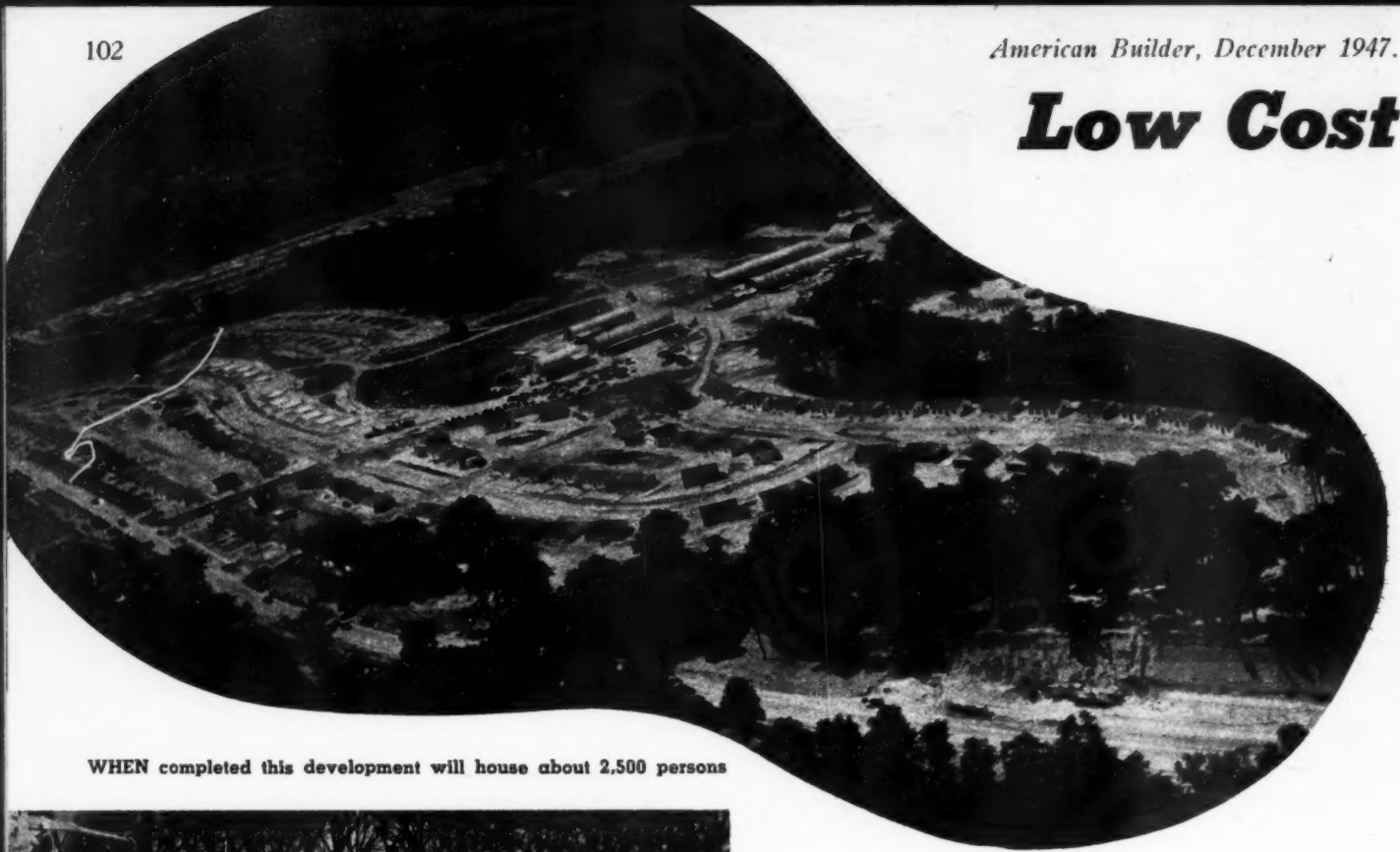
Burt Smith develops new-type construction that is low in cost and high in performance



TYPICAL SECTION



Low Cost

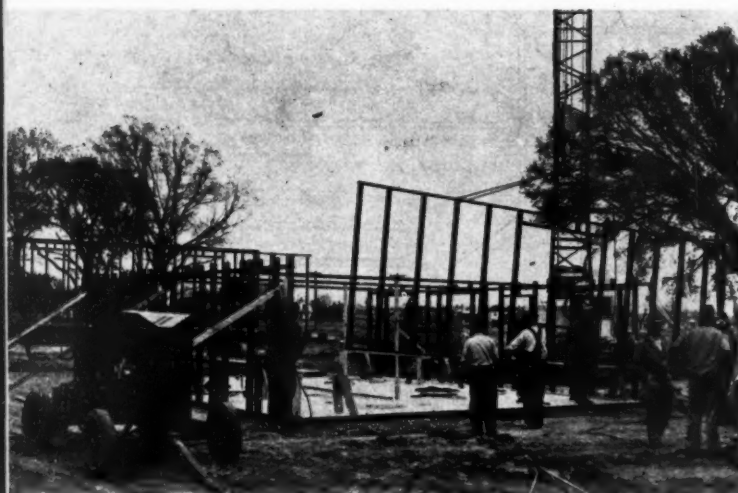


WHEN completed this development will house about 2,500 persons



POURING a 4-inch concrete slab which includes copper tubing, laid over waterproof paper and reinforcing wire, for radiant heat. About 800 feet of tubing is required for 3-bedroom house

Byrne-Moline Communities, Inc., is erecting 510 low-priced steel frame houses in Molette, a 180-acre tract in southeast Moline, Ill. Factory production-line fabrication methods with unconventional materials effect savings which permit sale of radiant heated houses for \$7,000 to \$7,500

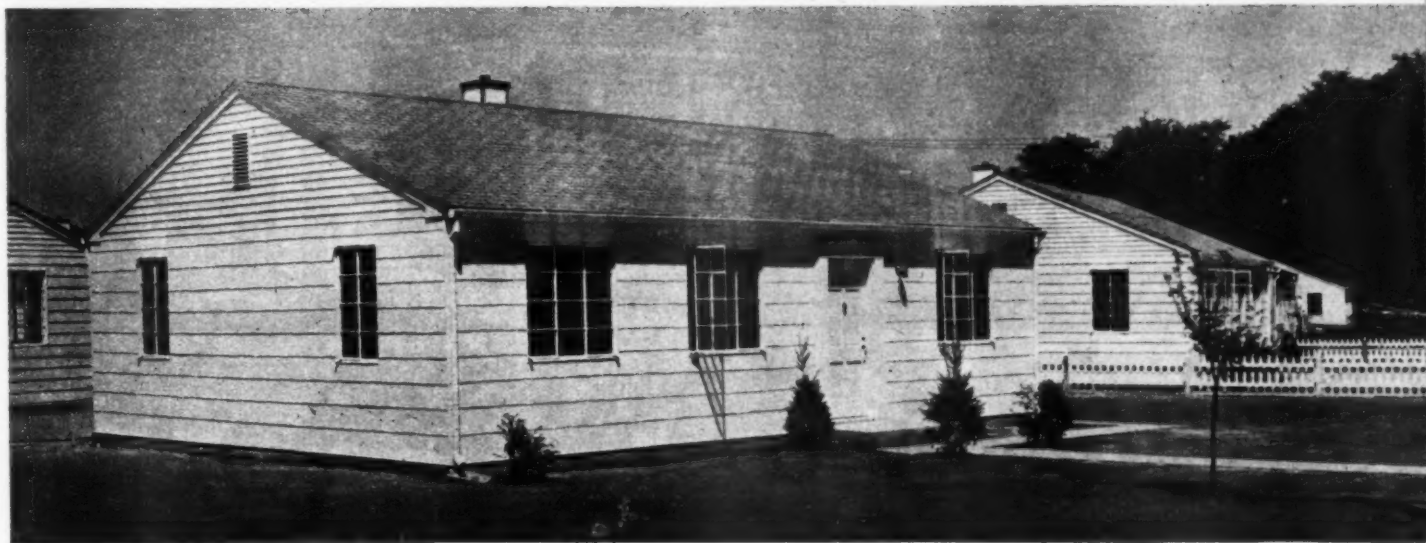


WEIGHING approximately 750 pounds each, four all-steel welded wall frames for each house are brought from the fabrication shop to site by truck and lowered into position with a crane



ROOFS for houses in Molette are turned out on an assembly line in one of the huge quonset hut shops on the site. Featuring steel instead of wood trusses, the completed roof weighs 4 tons

Housing by Mass Production



TWO and 3-bedroom, steel frame houses are covered with asbestos cement shingles or aluminum siding. Casement windows are steel

THE nationally-known Byrne Organization is now engaged in building 510 steel-framed, radiant heated, two and three-bedroom houses on a 180-acre tract in southeast Moline, Ill. By utilizing all the savings possible in factory production-line methods for pre-assembly and on-site erection, the welded steel frame houses are being placed on the market for \$7,000 and \$7,500.

When completed, the development will be a community of approximately 2,500 people. Efficient land planning provides curved, paved streets, several wooded areas, a number of lots atop knolls overlooking the Mississippi river and a shopping center which will include a large market, several smaller shops, bowling alleys and a theater. Some sections of the 180-acre tract have been set aside for development into playground areas.

The floor used is a 4-inch concrete slab with the copper tubing for radiant hot water heat imbedded in the slab. Floors are finished with asphalt tile. Each heating unit is provided with a gas-fired burner.



THE roof section is trucked from the fabrication shop to the house site and lowered to the steel frame by a heavy crane with a 60-foot boom. The roof is then welded to the wall sections

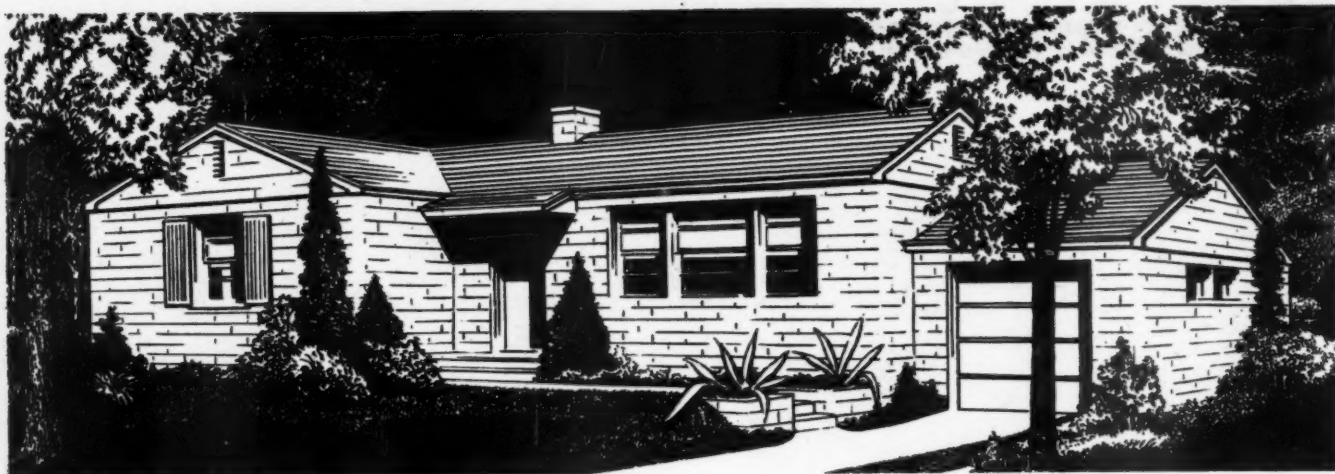
Walls are steel framework, metal lathed, plastered and insulated with 1-inch Fibreglas. Windows are steel, equipped with screens and exterior doors are weather-stripped. Some of the houses have asbestos cement shingle siding and others are finished with aluminum siding.

The roof section, which weighs about 4 tons, is completely assembled in the shop, hauled to the building site and lifted on the walls by a heavy crane with a 60-foot boom. The roof assembly consists of a maze of welded steel trusses, sheathed with wood and covered with asphalt shingles. The steel frame of the roof is welded to the sidewalls, which in turn are bolted to the concrete footings, creating a rigid, all welded framework that will withstand a 150-mile-an-hour gale.

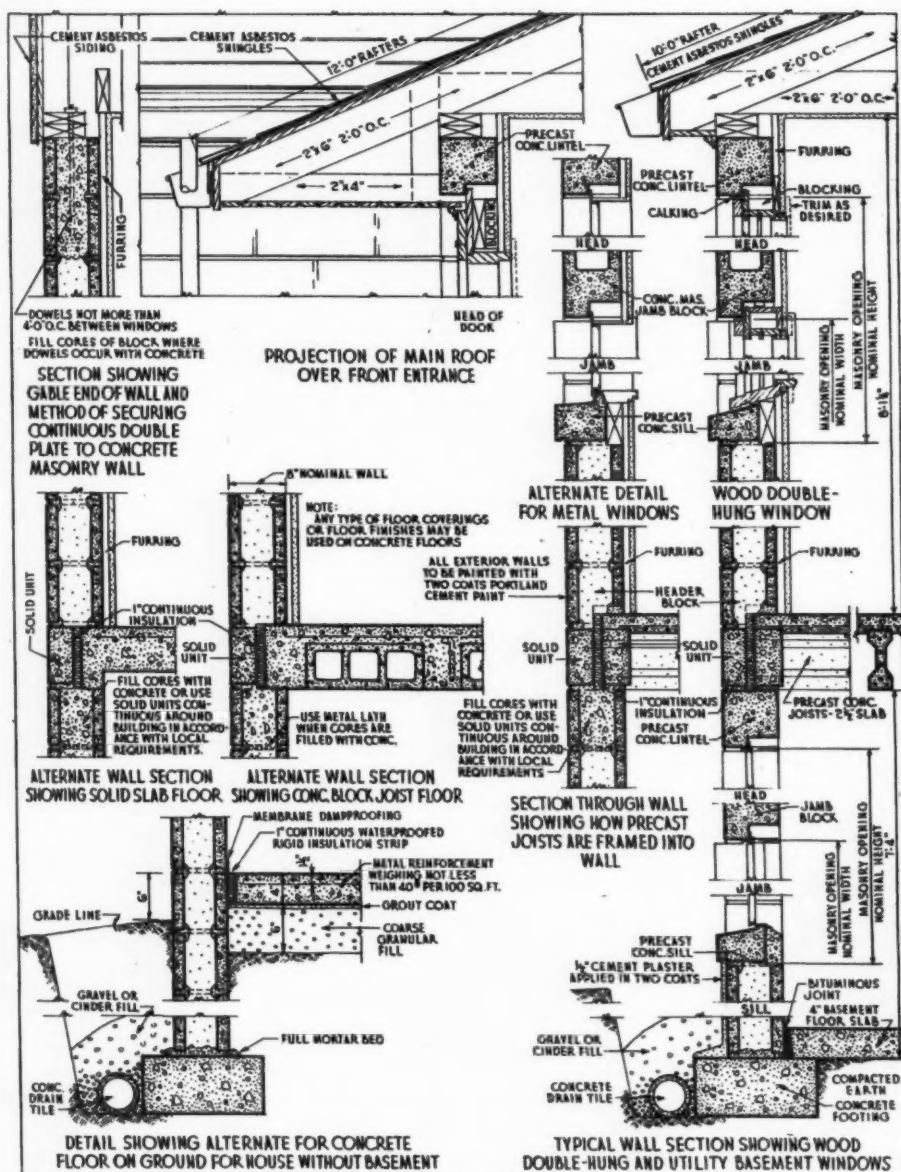
Basic plans for the houses provide a living room, dinette or dining alcove, kitchen, bath, utility room, storage room, and either two or three bedrooms. Each house also has a hot water heater, a double-tray sink in the kitchen, tub and shower in the bathroom. Ample storage space is provided in closets with sliding doors. Additional items which may be purchased and included in the long-term loan include a garage, driveway, additional walks, ornamental shutters, and porches.

All assembly work for the steel house sections is done on horizontal jig tables with blocks, guides and clamps holding each member in accurate position for welding. Two quonset buildings, each 180 feet long with a 40-foot open extension are used. One building houses the roof assembly operation, and the other, the wall panel work. The copper pipe grids for radiant heating are assembled in sections in the plumbing shop and transported to the field, wired to light timber frames to facilitate handling. In addition, all plumbing assemblies including waste connections, vent stacks, hot and cold water piping, water heater connections, and grid outlets are made up in sections in the plumbing shop for quick installation on the site.

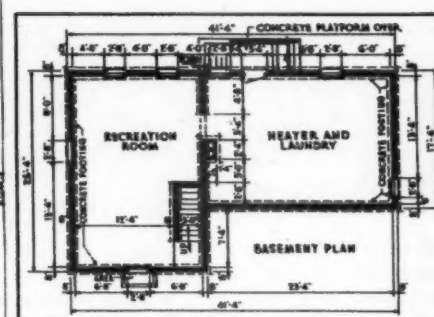
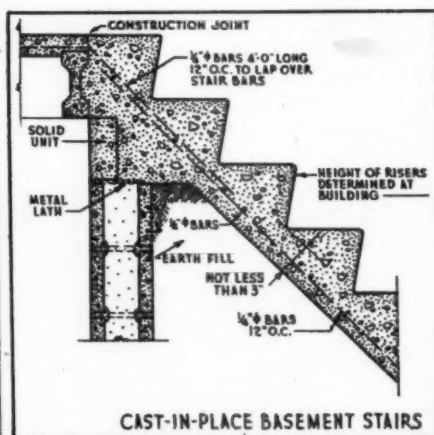
The electrical shop makes up assemblies of dimensioned wire runs fastened to junction or outlet boxes, some of which are installed in the assembly of wall panels in the shops and others installed in the field while interior partitions are being erected.



Industry-Engineered House In Concrete Masonry



Modular house which was developed by the National Retail Lumber Dealers Association and the Producers Council to utilize standardized parts is adapted for construction with concrete

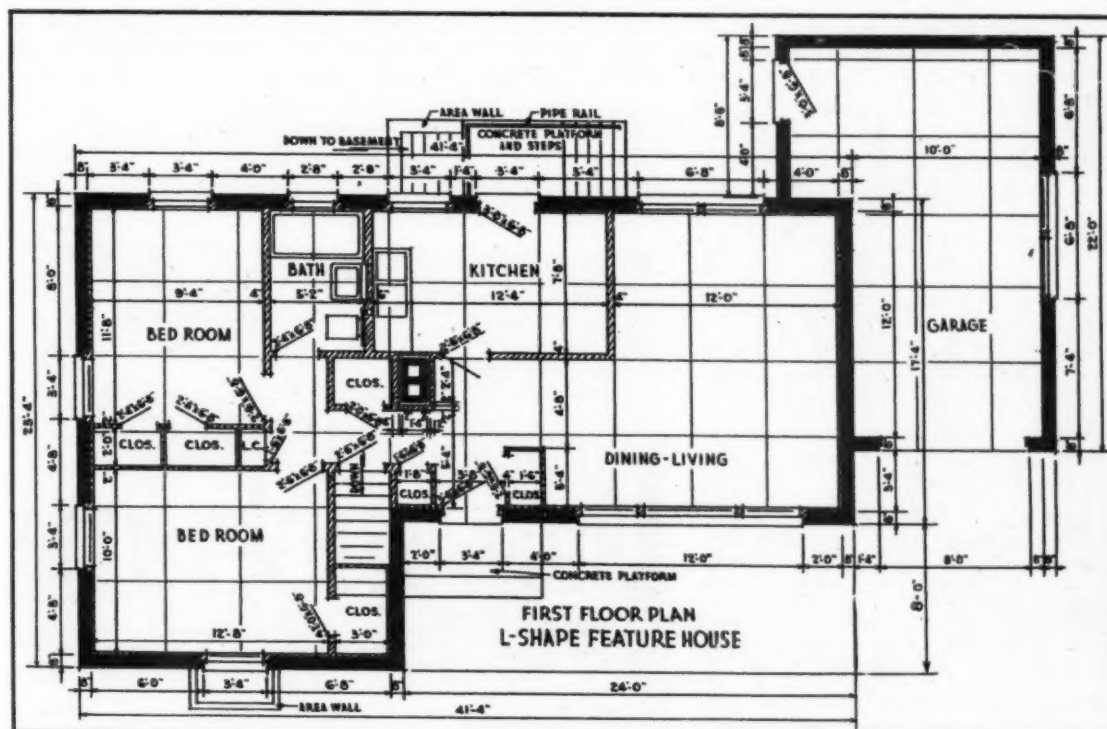
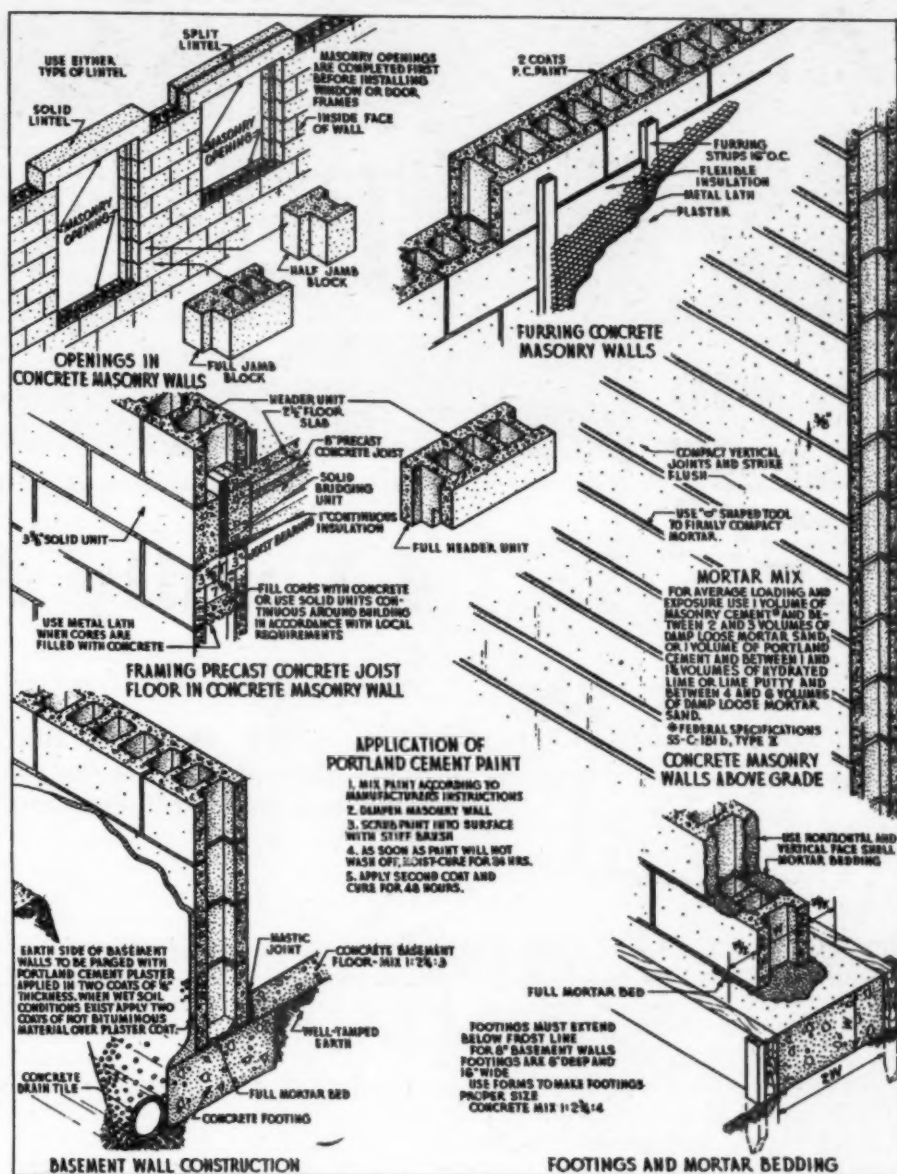


THE industry-engineered house, developed by the National Retail Lumber Dealers Association and the Producers Council, has been adapted for concrete masonry construction by the Portland Cement Association.

Using the 4-inch multiple adopted by the NRLDA and Producers Council in design of the house, the masonry plan utilizes standard modular concrete blocks throughout with a minimum of cutting and fitting. Because the house is designed on the 4-inch module and the masonry units fit such a setup, the end result is what the designers aimed for—economy of erection and construction.

The details presented on these pages show how the concrete masonry engineered house can be built with or without a basement. When a basement is used, it will be noted the plans call for 8-inch precast concrete joist supporting a 2½-inch reinforced concrete slab. The detail also shows how cast-in-place concrete stairs can be used. The plan using a basement also calls for an 8-inch concrete block bearing wall between the recreation room and furnace—laundry room.

To achieve maximum effectiveness of the horizontal lines of the industry-engineered L-shaped house, horizontal joints between blocks should be raked and the vertical joints troweled flush. All window and door openings in the concrete masonry engineered house will take modular sizes of those units, which is part of the overall plan of standardization of house parts behind the NRLDA and Producers Council current program.



ILLUSTRATIONS on these pages show the details on construction of the industry-engineered house in concrete masonry, with or without a basement. When basement is used, floor joists are 8-inch precast concrete



ONE street in Roselawn, Cincinnati, where three builders are constructing multiples.



4-Family Apartments

Cincinnati builders find ready market for small multiples among moderate investors who occupy one unit and rent out the remainder

THE loose charge that builders are not turning out any rental housing is at least partially refuted by the record of multiple housing construction in the Cincinnati area. Not counting homes for individual ownership, about 3,000 dwelling units in small apartment buildings have been completed and occupied since V-J Day, and more are started and nearing completion.

Probably 90 per cent of this volume is in 4-family multiples, with most of the remainder in 8-family or 9-family unit structures. It can be emphasized that all of this volume is rental housing, and not the total of all construction. Cincinnati builders have completed over 16,000 houses and apartments representing 19,750 dwelling units since 1940 and have another 11,000 planned for completion as rapidly as materials and labor supply will permit. The Home Builders Association of Greater Cincinnati is doing everything possible to get these facts before the public.

Four-family multiples always have been popular in the Cincinnati area for purchase by the small investor who wished to live in one unit himself and rent out the other three. For a time, it looked as if this market could not be served because of veterans' preference restrictions on rentals, for there were not enough veterans able to invest in a multiple to absorb what could be constructed. However, in February the Cincinnati association was able to get the Housing Expediter to permit FHA approval of builders' appeals under PR-33 and HEPR-5. These appeals asked permission to sell completed 2-family and multiple family dwellings to non-veterans who would occupy one dwelling unit and offer the remainder for rent to veterans.

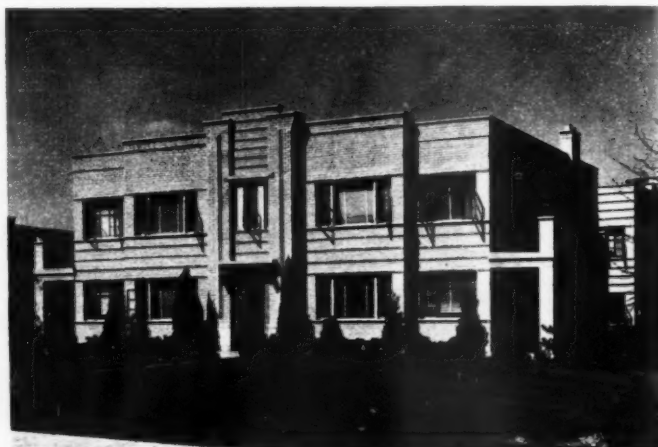
This relaxing of the holding-clause requirements took the brakes off multiple-unit construction, and operative builders began constructing 4-family multiples.

Members of the Cincinnati association in the first nine months of 1947 completed 152 multiple dwellings and

started over 60 more. That means that somewhere in the neighborhood of 1,000 family units will be available from this construction alone, at least 75 per cent of which will be rented, mostly to veterans. Other builders, not members of the association, have put up additional multiples of the same character.

One of the biggest operators in multiples in Cincinnati is Paul & Nelson who completed 34 buildings this year. Lang Bros., Inc., finished 15 and started five more. Myers Y. Cooper built 12 and started four more.

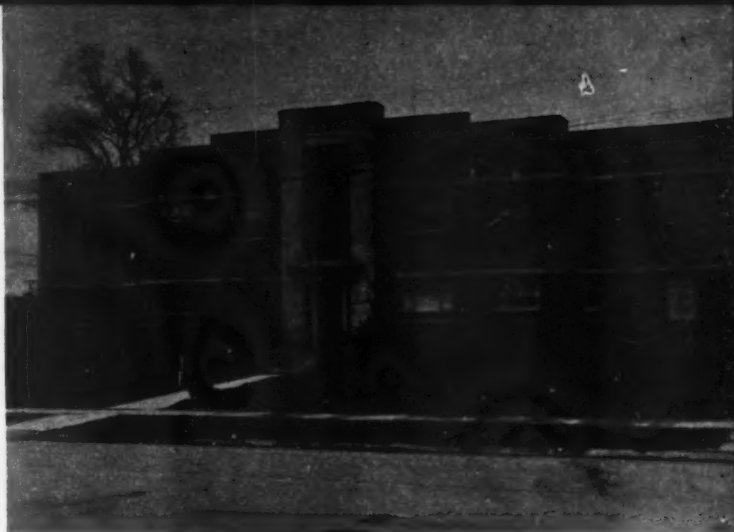
Three builders, Matthew J. Schrand, Ronald C. Marcotte and Modern Builders, Inc., are working currently in one development called Roselawn, putting up 4-family, 8-family and 9-family units. Collectively, they have finished 15 structures and started 27 others. Marcotte is a young builder, recently out of the Seabees, who knows construction methods. Several of the pictures on these pages are of Roselawn apartments, and the floor plan re-



A TYPICAL example of the most popular 4-family unit apartment



This street was undeveloped land one year ago



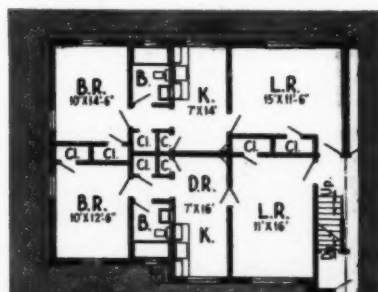
AN 8-unit multiple of the type whose floor plan is shown below

Yield Rentals

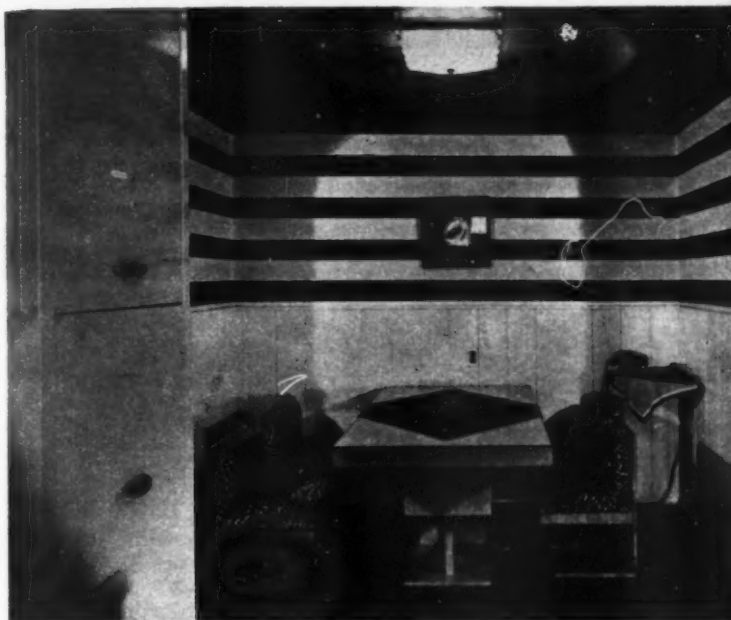
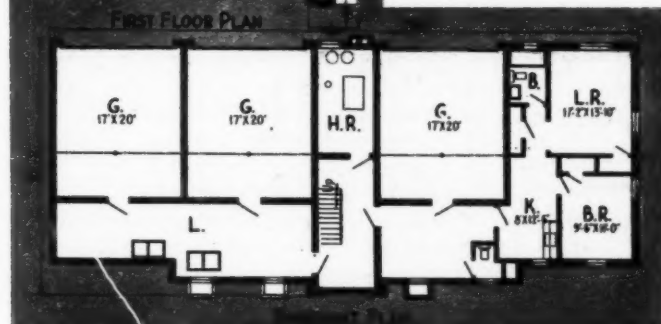
produced is of one of the 8-family unit structures being built by Modern Builders, Inc. One complete street, pictured here, was only undeveloped land a year ago and is now filled with small apartments already occupied or just nearing completion.

The Cincinnati association has been active to secure changes in the building code which would permit wider choice of materials in construction of these small apartment buildings. One change, allowed recently, permits the use of glass block in the wall structure to light stairwells. Ventilation is done the same as in large commercial buildings. Formerly, windows had to be used for stairwell light and ventilation. The code now also permits $1\frac{3}{8}$ -inch thick garage doors where it formerly required non-standard $1\frac{3}{4}$ -inch slab doors be used. The association secures good cooperation from the local building commissioner and is careful not to jeopardize that cooperation by making sure that all changes requested are reasonable ones.

Rentals of the newly constructed multiples vary considerably. The lowest rentals are about \$55 for a 3-room apartment. The upper bracket hits from \$125 to \$150 for a thoroughly modern, 5-room, 3-bedroom unit. The asking price for a recently completed 8-unit multiple of 3-bedroom apartments in a high class neighborhood is \$52,500.



PLAN shows arrangement of apartments for 9-family structure. There are four units on first floor and the same on the second. The extra unit is in the basement which also includes the garages, laundry and utility room, as shown



DINING alcove in one of the 3-room apartments of such a multiple unit opens off the kitchen, as shown on floor plan, lower left



THE living room is large enough for comfort and has good light from the windows. Space is ample for modern furniture grouping

BENDIX

COIN OPERATED LAUNDRY



THIS coin operated laundry serves tenants in an apartment basement



Home Sales Are Aided By Automatic Washers

RECOGNIZING that the day of returning competitive building is not too far off, some operative builders already are seeking to get more into the home package to satisfy the homeowner or apartment renter. Installing better laundry facilities is one method being used currently by several of these builders. While not necessary to make sales today, they report that buyer dissatisfaction with high building costs is somewhat lessened when automatic laundries are installed, and it gives the buyer the opportunity of amortizing the cost of such equipment in his mortgage instead of having to buy it on the usual installment plan at a high interest rate.

The automatic laundry makes a definite appeal to the housewife who does her own washing, and to some who are dissatisfied with the high charges necessary for commercial laundering today. There is much less drudgery connected with the wash day job, for soiled clothes are simply loaded into an automatic machine and washing, rinsing and drying is all done without once removing the clothes. The need for set tubs or laundry trays is eliminated. There is no laborious wringing, rinsing and wringing again. Outdoor drying yards also become superfluous.

The idea of installing automatic laundries began first with the builders and operators of multiple apartments. At Parkchester, a Metropolitan Life development in New York City where a basement laundry had not been provided in the plans, ground floor stores were turned into coin-operated automatic laundries to serve the tenants. At a garden apartment development, Park Mercet, separate laundry rooms, each containing two automatic units, were provided. In Arlington, Va., a basement under stores was turned into a 50-unit, coin-operated installation for apartment



THE automatic washer is a part of the modern kitchen installation

dwellers. Where automatic equipment is installed in apartment buildings, coin-operated machines can be used to amortize the costs and provide maintenance, or the cost can be figured in as a part of the rental. It is estimated that each washer in an apartment will serve about 20 families at 10 cents for a half hour meter. Smaller units of 10 families or less usually require either a 15 cent or 25 cent meter.

Noting the popularity of automatic laundry equipment in apartments, some operative builders are now installing them in new private homes. Among them is Levitt & Sons of Manhasset, Long Island. Levitt installs washers and advertises the installations in selling all his homes, from the \$7,000 unit to his new higher priced units in the \$18,500 range. Automatic laundries are grouped with range and refrigerator as necessary convenience equipment. In Cincinnati, another builder installed automatic washers in small homes selling under \$10,000 and found buyers liked the idea, even when they already owned washers. There was no trouble in disposing of second-hand units.

List of Manufacturers Of Automatic Washers

Altorfer Bros. Co., "ABC-O-Matic"
 Apex Electrical Mfg. Co.
 Barlow & Seeling Co., "Speed Queen"
 Bendix Home Appliances, Inc.
 Blackstone Corp.
 Frigidaire Div., General Motors Corp.
 General Electric Co.
 F. L. Jacobs Co., "Launderall"
 Nineteen Hundred Corp., "Whirl-Matic"
 Thor Corp.
 Westinghouse Electric Corp.

Play Center a New Idea for Community Developers

California builder donated \$25,000 clubhouse and recreational center to residents of his 445-home subdivision

IN their Los Angeles Lakewood Gardens' tract of 445 homes, Paul W. Trousdale and Associates have constructed a complete clubhouse and play center and presented it to the homeowners of the community. This unique experiment by one of the largest housing developers in Southern California, if it succeeds, may establish a precedent for builders in other sections of the nation.

Builder Paul W. Trousdale has been interested for many years in promoting good relations and cooperation between homeowners in his subdivisions, and especially in providing the youth of the communities with recreational facilities to keep children healthfully occupied. The thought back of this is not only to keep residents satisfied and promote civic pride, but to reduce juvenile delinquency as well.

Before presenting this recreational center to residents of Lakewood Gardens, a civic association was formed and each owner in the subdivision was given a membership. The function of the association is to provide supervision, maintenance, plan programs and keep the enterprise active. The Trousdale Construction Co. will furnish insurance and maintenance on the facilities for six months. After that time it will be left in the hands of the members of the new association. A young veteran of World War II, Mr. R. E. Lyon has been named as first president of the association.

If for any reason the association does not actively man-



TOP OF PAGE: Layout of community center showing building, swimming pool and wading pool. **Above:** Mr. Trousdale, right, presents the recreational center to residents of his Lakewood Gardens subdivision. R. E. Lyon, center, is first president of homeowners association organized to take over and operate the project

age and maintain the play center, it is probable the county will take over the facilities. In that case, the center will become a free playground for the entire neighborhood and will not be limited to residents of Lakewood Gardens. The cost of the project to Mr. Trousdale was approximately \$25,000, including ground equivalent to four lots. This figures about one-half of one per cent of the value of the 445-home development.

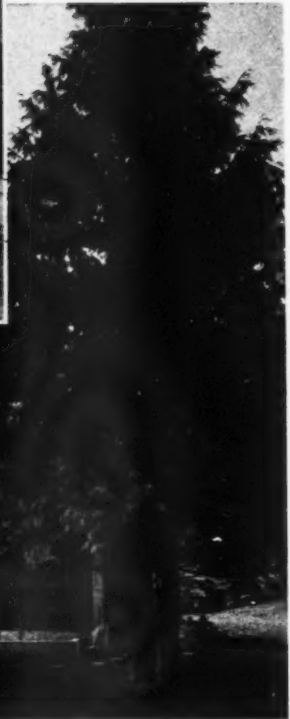


WADING pool for young children separated from swimming pool



MAIN swimming pool with dressing room facilities adjacent to it

FIREPLACE end of living room, showing "framed" fire opening and mantel front of Stayton stone with dark wax treatment. The floor plan and photo below show the layout and general appearance of this small country house



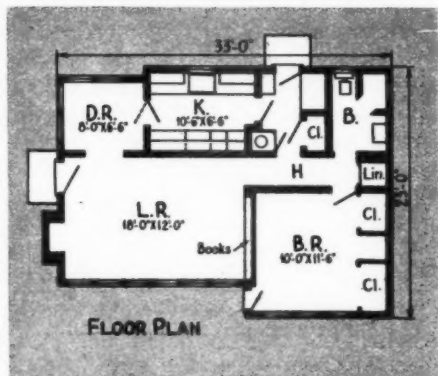
This Guest House Doubles as Home

Four rooms and bath in miniature ranch-house style satisfies needs while larger house is being built

THE James P. Carney guest house in suburban Portland, Ore., is now being used as the family shelter, while plans are developing for the main house which will occupy an adjacent site. Exterior of this guest house is stained rough-sawn cedar. The interior is light-color finished, knotty cedar material. The floor, in which is installed an electric radiant heating system, is covered with asphalt tile. To date, heat cost has averaged twelve dollars a month. The large stone fireplace is also a house warmer. Framed

like a picture, the fire in the Carney home fireplace circulates its heat efficiently about the room. It is approximately 18 inches above the floor. The Stayton rock of the mantel is darkened with wax.

The floor plan of this guest house shows a living room 12x18 feet, a bedroom 10x11½ feet, a dinette 6½x8 feet and an efficiency kitchen 7½x10½ feet. There is a bathroom with a shower, and an ample supply of built-in wardrobes and closet space is provided throughout the house.

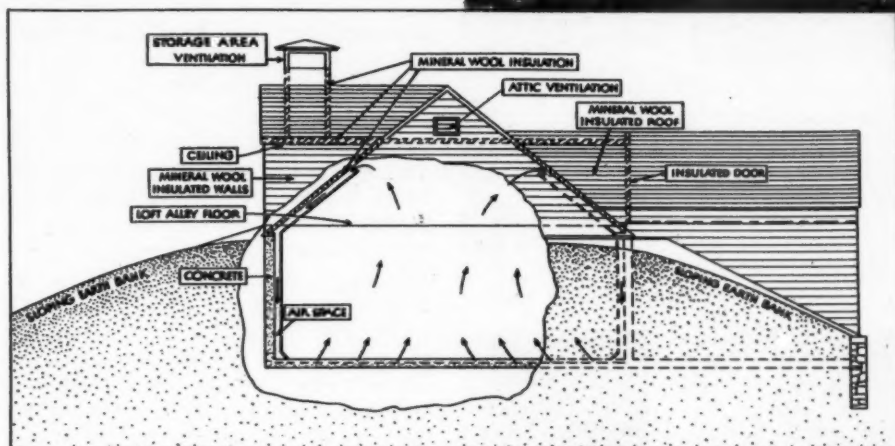


INTERIOR of living and dining areas is light-finished knotty cedar. The compact, efficient kitchen is finished in white

How to Build a Good Vegetable Storage Building

Circulating air around well-insulated storage area gives uniform low temperature and humidity conditions

POTATOES are brought to the building in trucks and piled on both sides of the center aisle from the ground floor entrance until the stacks reach to the loft level



THIS line drawing indicates the cycle followed by air circulating within the storage area. Air warmed by the potatoes rises and is cooled upon contacting the roof. It then circulates downward along the walls, into circulation tunnels located in the floor, and up through the stored potatoes

UNIFORMITY of low temperature and high humidity is essential in a building constructed for storage of farm produce. An example of correct design and construction technique is provided by the potato storage warehouse on the Heaven Hill Farm of Henry Uihlein, Lake Placid, N. Y. Here the correct storage temperature and humidity for seed potatoes is being successfully provided by the insulation and air circulation system.

The building is 40x68 feet with a ground floor entrance. Floor and walls, backed with earth, are of concrete. Asbestos cement shingles were used on the roof. Gables and above-the-earth sections of the entrances are of clapboard. A ceiling is provided above the storage area.

In the Lake Placid region insulation is necessary to keep the outdoor winter temperatures from freezing the stored potatoes. Lower portions of the structure, comprising the foundation and low concrete walls, were banked with earth almost to the top except on the main entrance side. This prevents freezing temperatures at the wall surfaces as heat from the earth serves to warm the floor and the lower part of the walls.

Mineral wool insulation was used to insulate the ceiling, the roof below the ceiling level, the gables and the entrance. Six-inch mineral wool batts insulate the roof of the main entrance. The balance of the structure is insulated with 9,360 pounds of granulated mineral wool. The mineral wool was blown into the spaces between 2x6 joists and rafters in the ceiling, roof and gables. The wool is supported in place by 3/4-inch asphalt-coated fiber board and an impregnated, double-asphalt-coated vapor seal barrier paper nailed to the inner face of the 2x6's. All joints in the vapor seal paper were lapped and cemented with asphalt as required by good practice. On the outer face of the wall, a layer of 30-pound asphalt-saturated felt was fastened before application of the shingles or other covering.

Since the storage area is completely insulated from outside temperatures, and since the potatoes constantly give off some moisture and heat, the humidity and temperature of the storage area can be regulated by controlling the quantity of outside air admitted to the storage area. This regulation of ventilation is achieved by sliding doors in the cupola.



LOFT entrance for stacking potatoes at high levels. The cupola admits fresh air into the storage area for good ventilation



TO AID internal circulation, a vertical wooden partition was built about 6 inches in from the walls, open at top and bottom

How You

POWER TOOLS and accessories not only accelerate the job of fitting hardware to doors—they also effect labor economies that pay for them. A builder who puts up from five to ten houses in a year can save the cost of the necessary power tools for fitting doors within that period.

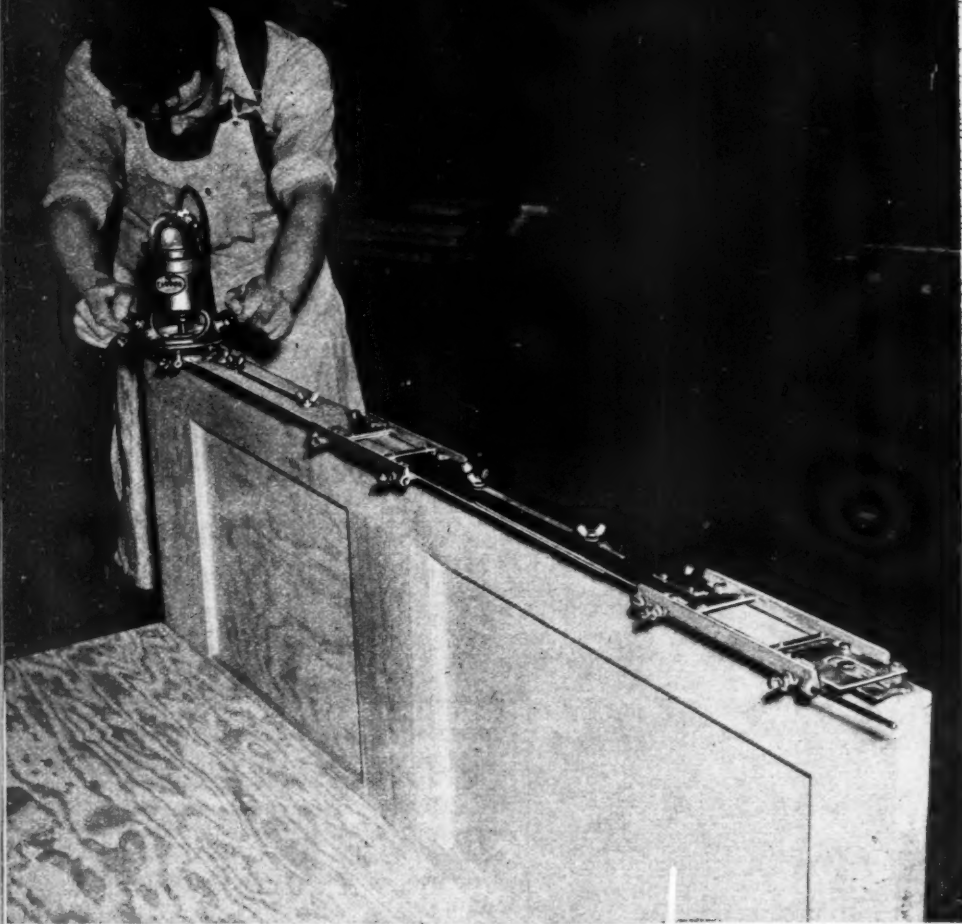
The power tools needed for fitting the doors in the jambs, cutting the lock mortise, and cutting the recesses for the butts are the power plane, hinge butt router, lock mortiser, lock face templet and door and jamb templet. With these the builder can set up a site fabrication shop to do the door fitting, saving the job for rainy days when possible. A separate shop is not necessary but is quite desirable if the job is large.

The first tool to use is the power plane which fits the door to the jamb opening, and bevels the edge on the lock side of the door. The correct bevel is obtained by tilting the apron guide on the side of the plane. A spiral cutter is used on the power plane which produces a surface that can be painted without sanding. The spiral cutter also permits planing end-grain as smooth as when used with the grain. This power tool will cut across the grain without splitting out the edge if the operator slows up the feed at the end of the stroke.

The hinge butt router always makes a perfect fit for hinges. The micrometer adjustment on the router permits accurate depths of cuts, eliminating hinge binding. This adjustment is made by turning the router in the threaded base which has sixteen threads to the inch. A half turn gives a 1/32-inch depth adjustment, a quarter turn gives a 1/64-inch depth adjustment. A perfect fit means that the door is hung on the jamb with a tight fitted hinge and not on the screws.

The door and jamb templet has three openings so that one, two or three hinge recesses can be cut in the same operation. These openings in the templet are adjusted to the size of the hinge, and the hinge butt router follows the openings both on the jamb and on the door. The door and jamb templet is held in place on the door by six small nails that are part of the templet. After cutting the hinge recess on the door, the templet is removed, reversed and placed on the jamb held in place by the six nails.

A MORTISER is mounted in a jig for cutting lock mortise. Doors are pushed into jig and shimmed to adjust height of cut



CARPENTER routing recesses for butt hinges on door using adjustable templet for position



Can Speed That Door Fitting Job

Power tools, templets and fittings cut the time required by the carpenter to fit butt hinges and locks to doors with maximum accuracy

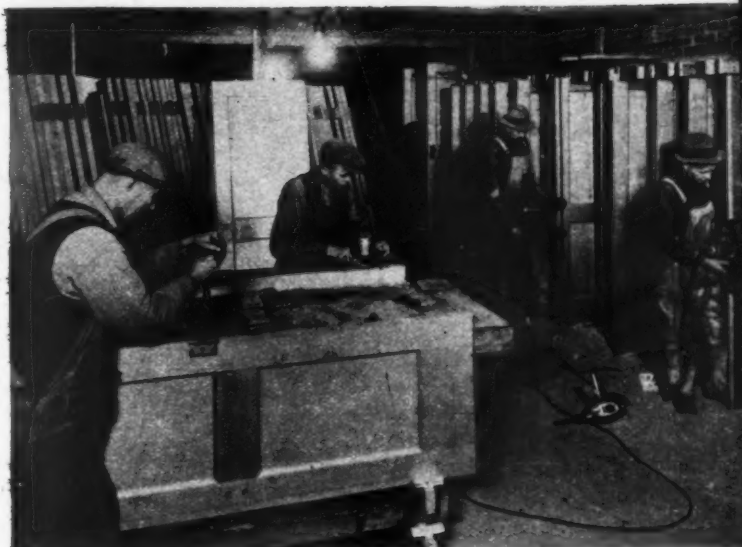
The lock mortiser is a very fast cutting tool having its own power feed and three adjustments, one for the depth of cut, one for the length of cut and the third for the width of cut which is controlled by the diameter of the bit. The mortiser is located on the door by a rod and hook arrangement which hangs from the top of the door. It is clamped to the door with a right and left hand thread so that the cut is always central. The actual time for cutting a lock mortise is about 30 seconds or less.

The face plate templet is also located from the top of the door and is used as a guide for the hinge butt router in cutting out the face plate for the lock. This operation takes 15 to 20 seconds. The face plate templet is so arranged that it lies parallel with the bevel on the door and gives a perfect fit for the lock when in place.

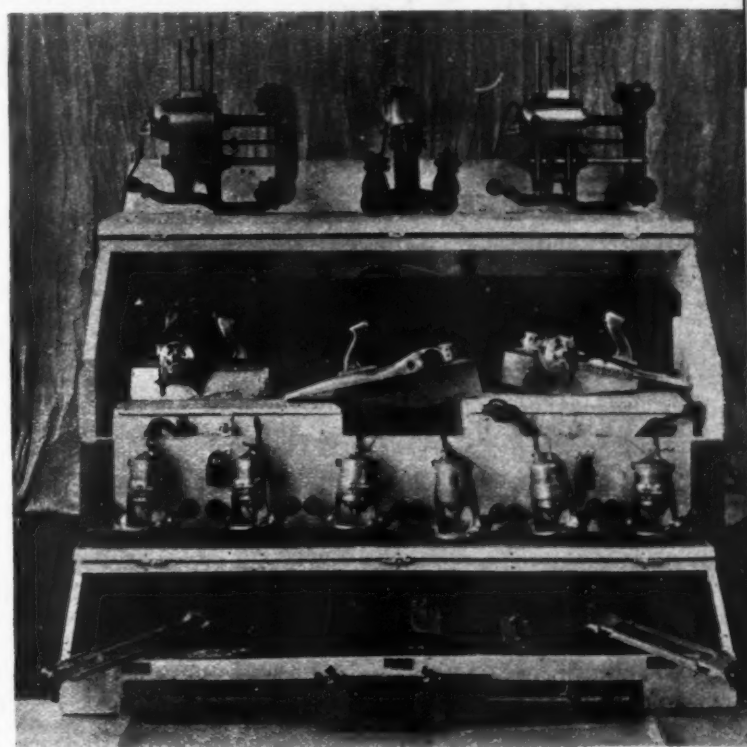
The tools described are all portable, can be set up quickly, and each tool is provided with means of grinding the cutting tool on the job. For one-house jobs, it would not be desirable to set up any racks or tables but, where several houses are to be fitted with doors, some type of rack or table will speed the work. One of the pictures shows a rack which holds several doors, permitting the workman to go easily from one to another. The mortising is done, and then followed with the face plate templet and router. Other workmen at the table will recess for the hinges.

Where space permits and the job is large enough to set up a real "production line," a suggested layout is shown at the bottom of the page. In this setup, two 1 h.p. routers are used, one above the table and the other below the table. These tools are used for planing the door to the correct width and to place the bevel on the lock side at the same time. A radial saw then cuts the door to length. The door is passed to the next position for mortising for the lock; then it goes off the table into a position for recessing for the hinges. In this position, the templet can be hinged so that it will drop over the work very quickly. Routing for the lock face plate is done in the next position, and the face plate templet may also be hinged on the bench. The assembling of the hardware follows.

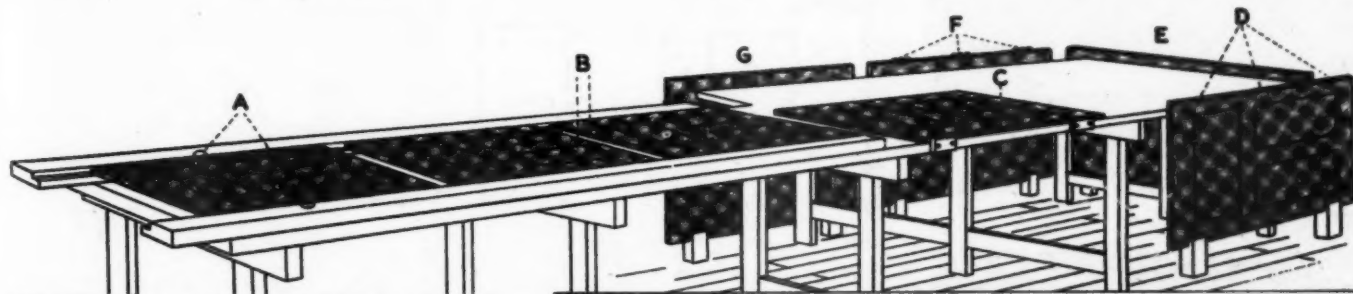
The tools described for fitting doors are adaptable for many other uses. The lock mortiser can be used for cutting letter-slots in doors, straight or at an angle. The hinge butt router can be used for light moulding cuts for the trim. Other machines, which also cut production time, are available for stair routing.



A FAST door-fitting setup. Lock mortises are cut in doors in the rack, butt recesses are cut and hinges fitted at the work table



ONE builder's power tool kit for door fitting includes three mortisers, three power planes, six routers and assorted templets

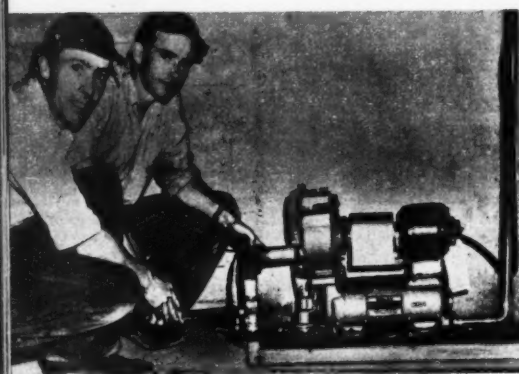


SUGGESTED site fabrication setup for fitting doors. Two power planes mounted as routers at "A" bevel lock edge and cut width; radial saw at "B" cuts doors to length. Lock mortiser is mounted

at "C" and butt recesses are cut at "D." Routing with face plate templet is done at "E" and the door goes to station "F" where butts are attached. Lock and face plate are put in last at "G"



ONE section of the 250 house Newbridge Gardens development, showing attractive modified Cape Cod colonial design used



THIS Gould Balanced-Flow pumping unit is installed in each house to supply water



FLEXIBLE and portable, generator-powered Porter Cable Speedmatic saw does pre-cutting

Out Beyond the Water Mains

Modern, tankless water-pump installation which delivers a balanced flow enables two builders to service large size operation

LACK of public water supply need not deter a builder from large scale operations if wells can be driven for good quality water to serve individual homes. Builders John Roreck and David Schwartz already have completed 135 houses of a 250 house project, each of which will have its own water supply system.

A new design pump installation is used which does not require a water storage tank, but delivers a steady, continuous flow on demand. The unit received a rigid test during construction operations. The builders used a single unit to supply water for the entire job and found it gave complete satisfaction.

All houses are an attractive Cape Cod colonial design with exterior variations achieved by use of several side-wall material combinations. One basic floor plan is used. The homes are in Newbridge Gardens, a development in East Meadows, Long Island.

The house has two bedrooms with an expansion attic where an additional room may be finished in future. Overall size is 25x45 feet, including the

attached garage. Foundation is poured concrete with a full basement.

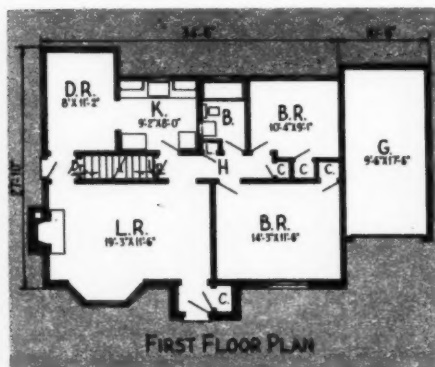
Exteriors are asbestos cement shingles or a combination of the shingles with stone veneer. Interior is drywall construction with wall paper finish. Oak floors are used throughout, except in the kitchen where linoleum is installed. Kitchen has modern cabinets, sink and a gas range. The heating unit is steam with an oil burner. Copper plumbing is used.

Much of the rough framing, including that for stairs, bays and dormers, is pre-cut on the job with a power hand saw attached to a radial arm which is mounted on a light trailer. Power is supplied from a gasoline generator mounted on the trailer.

Each house has its own water-pump unit, connected with a well. The unit has a self-adjusting capacity feature which regulates the flow uniformly and delivers water in required volume to one or more outlets at the same time up to the limit of the pump capacity. Pump units are in the cellar, although they are small enough to install beneath a kitchen sink.



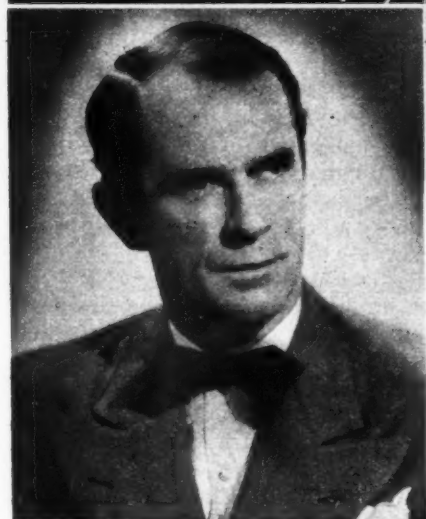
THIS exterior finish is priced at \$9,490



COMPACT and efficient room arrangement



THE stone-veneer exterior sells for \$9,790



W. P. (BILL) ATKINSON

Scientific community planning plus good home building technique have created an entirely new permanent city of 2,185 homes in less than six years. Its permanence is attested by the fact it is still growing at the rate of three new starts per day

WAR-BORN Midwest City, Okla., continues to grow with three new homes started daily

Planning and Building City of Quality Homes

PERSISTENT determination to build good houses to sell at the lowest possible price in a development planned to maintain permanent values is paying fancy dividends for W. P. (Bill) Atkinson of Oklahoma City. The dividends are not all monetary. They consist in large measure of the satisfaction derived from seeing hundreds of families adequately housed in a fine new community which has sprung into being since the beginning of World War II.

In the early years of the war when the location of Tinker Field was finally determined, nine miles from Oklahoma City, Mr. Atkinson held option

on several hundred acres of choice land surrounding the Army Air depot, one of the largest in the nation. He was confronted by three alternatives. First, he could sell the land on a speculative basis and make quick money. Second, he could build temporary buildings and realize everything possible during a war boom, and let come what would when this broke. Third, he could look far into the future, take a longer chance, and build for permanency. He chose the last, and as a result Midwest City became a reality.

Seward Mott, nationally-known land planner, was employed to lay out the city covering 640 acres of land,

PARTS for these houses are precut and preassembled in large plant adjacent to site





THIS is a typical street view in Midwest City. Majority of home designs are by Alma J. Hedge and Alben W. Davis

which previous to April, 1942, had been raw farm fields. Today there are 2,185 dwelling units in this city which is complete with its own municipal government, school system, sewer system, shopping centers, churches and other facilities. When completed, it will have 2,835 units and a population of approximately 12,000.

During the first part of the war when the need for housing adjacent to Tinker Field was especially urgent, 15 builders, in addition to Mr. Atkinson, constructed two and three bedroom houses. They were Steve Pennington, H. B. Atkinson, Ben C. Wileman, John W. Lyon, Manly Moore, Charles Stanword, C. E. Duffner, Russell C. Showalter, Joe B. Scoggins, N. D. Woods, Amos Bouse, George Epperly, Melvin Dotson, Cord B. Wilson, and D. D. Daugherty. Each bought from 25 to 100 lots and constructed separate subdivisions in keeping with the master plan for the city.

Today, Midwest City is still growing. Although most of the residents are employed at Tinker Field, many others work in Oklahoma City and commute the nine miles daily. Bill Atkinson and four other builders are now busy constructing 402 houses in

the \$8,000 to \$9,500 price range and 70 houses in the \$10,000 to \$20,000 range of ranch-type architecture on lots with 60 to 150-foot frontage. The four builders now working in Midwest City, besides Mr. Atkinson, are Russell Showalter, Cord Wilson, H. B. Atkinson and Roger Givens. At present they are starting about three houses a day.

In his search for methods of cutting costs and speeding up production of houses, Mr. Atkinson built a large woodworking and preassembly plant adjacent to Midwest City about 18 months ago. This is a permanent brick and steel clear-span building 90x215 feet, located on a rail line. Here all the latest in power equipment and jigs are utilized to the maximum extent to precut and preassemble house sections, most of them four-foot panels. Panels have windows and doors installed before they leave the plant. A large plumbing shop was recently added to the firm's operations and some of the plumbing is now installed in panels at the factory. A large cabinet shop is part of the factory setup and trim and millwork are cut to fit. With panels and parts cut to fit, a two bedroom house can be com-

pletely assembled on the site in from 60 to 70 man hours.

The factory has a maximum capacity at the present time of seven houses a day, but the system is so worked out that even as few as one or two houses a day can be run through at a profit. This has been made possible because of the intensive cost and time studies constantly being made in the operation. One full-time man devotes his effort to finding the right men for the right jobs and also studying the factory layout and on-site operations for improvements in efficiency and cost-cutting possibilities.

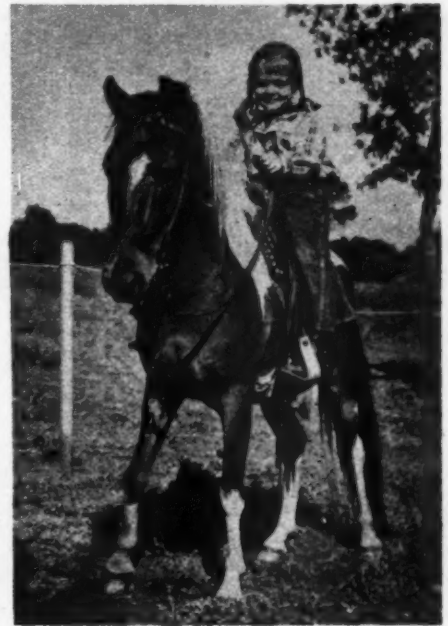
Adjacent to Midwest City, Mr. Atkinson has already platted and will start construction soon on 300 "Ranchets". These are to be ranch-type houses with service buildings located on tracts at least one-half acre in size with rear yards fenced in so that residents may have livestock such as horses, cattle, chickens, or other animals, as well as gardens, along with their homes. The curvilinear streets will be hard-surfaced, all utilities will be in, and residents will be able to enjoy all the conveniences of city life while living in the country—even to house-to-house mail delivery.



MODERN fabricating plant with building material warehouses and lumber sheds on eight-acre tract adjacent to Midwest City



PART of main shopping center. No resident is more than one-half mile from one of the two shopping areas



ON a site adjacent to Midwest City, the W. P. (Bill) Atkinson Co. will soon start work on 300 ranch-type homes on one-half-acre tracts to include service buildings and rear yards fenced so families can have livestock and gardens. A shetland pony will be included with each house sold. Eighty-five ponies have already been purchased. Plot plan of the tract is at left



UP to five houses per day can be precut and panelized in this modern 90x215-foot clear span steel and masonry building

Unique Face-Lifting

THE problem given to Angelo Bisenz & Associates, New York architects, was to revamp an old outmoded building that was situated in a strategic location in the downtown shopping area of Baltimore, Md. Bisenz made an unusual store of the old building.

The owners of this store wanted a departure from the dreary atmosphere of the usual rug and linoleum showroom. They wanted to use a large portion of the first two floors for display, yet have these displays actually function as a sales area. Certain elements of the design were determined by the existing structure, especially in the design of the interior arrangement. The problem of width, acute at the front of the store, was alleviated in three ways: (1) a splayed glass front that increases the feeling of space



NEW portion of building shown with work in progress. Old part at right

Old building transformed by modern methods. Two-story splayed glass front adds footage to unusual design, giving the effect of a large, illuminated show case at night



OLD building in its original condition



FIRST and second floors are devoted primarily to sales. Shadow boxes and offset walls add interest to the display of merchandise

for 99 Year Old Building

from within and without; (2) contrasting color on the sidewalls; (3) the use of built-in display boxes and offset bays, breaking up the long sidewalls. Specially designed fixtures and wall cases are arranged to accentuate the width of the store.

The two floors above the sales area are devoted entirely to storage. This space as well as the sales rooms and offices are completely air conditioned. This afforded an opportunity to the architect to obtain an unbroken vertical surface on the exterior above the large window area, thus accentuating the height of the building.

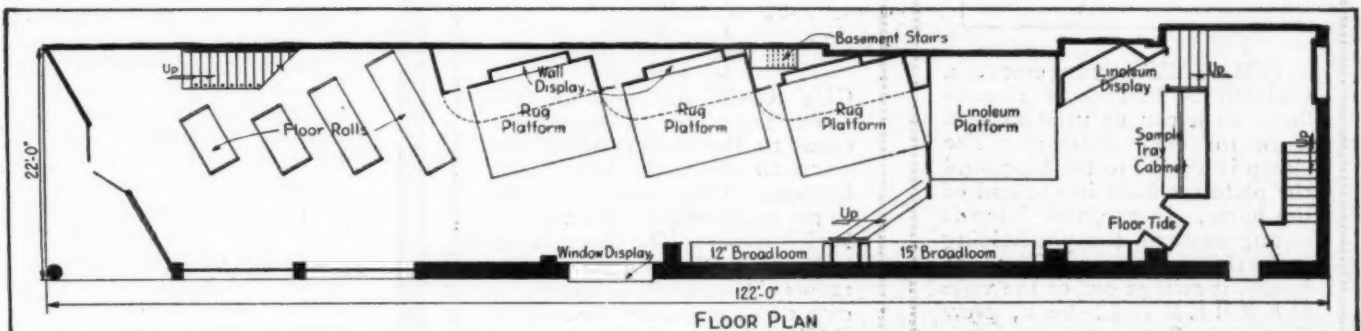
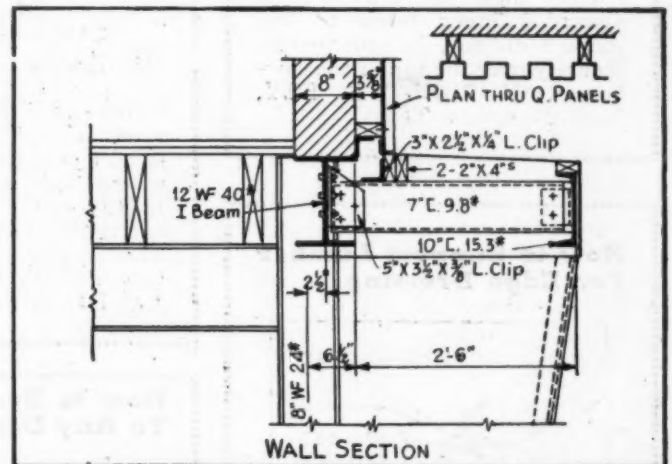
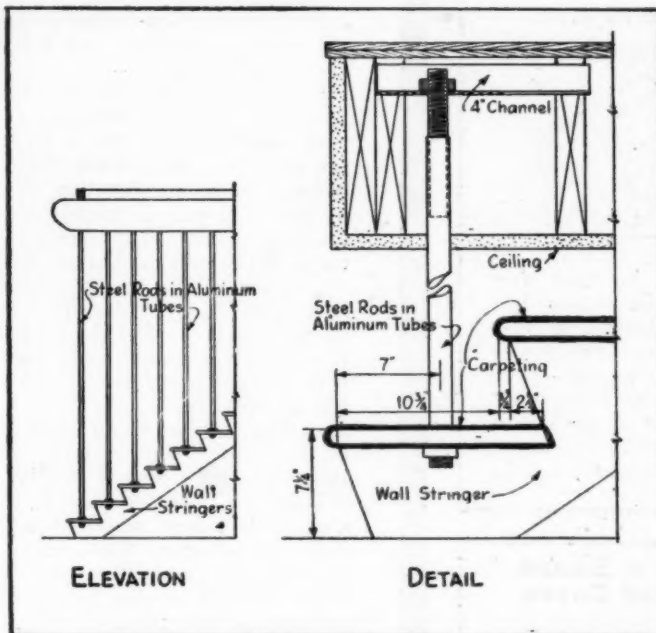
Due to the extreme age of the original building, a great deal of care had to be exercised by the contractors in the process of the remodeling. Smith, DeCorse & Christhif, builders, were

daily confronted with many difficult problems of shoring during the period of demolition.

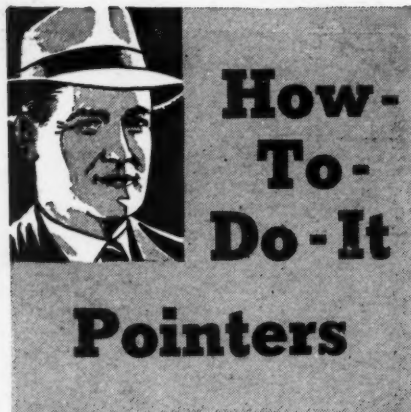
Q-Panels manufactured by the H. H. Robertson Company were successfully used on the exterior of the remodeled portion of building. These panels were applied over a masonry wall as shown in the detail on this sheet. Herculite glass doors blend well with all glass front. A number of unusual features are employed in the interior. The stairs leading to the second floor sales area are supported at the wall by a conventional stringer. At the other end, each tread is supported individually by aluminum tubes hung from the floor above. The railing at the front of the second floor level is clear glass, except for the top, bottom and vertical supports.



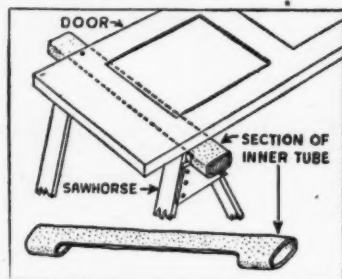
NIGHT view of store. The entire interior of both floors is visible from the street



FIRST floor plan showing arrangement of display units and wall cases. Details of the interior stair and exterior wall above

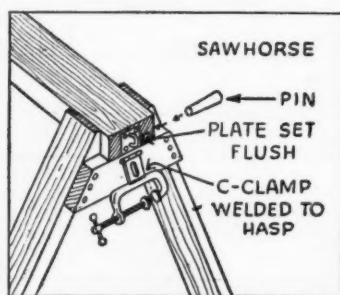


How to Make a Pad For a Sawhorse



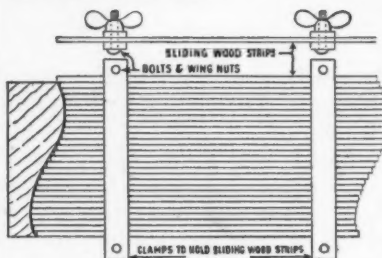
TO AVOID scratching or marring the finished surface of doors and windows which might require repair, a protective pad is placed on the top of each sawhorse. These pads are cut from discarded inner tubes to the shape indicated, in order to fit securely over the top of the sawhorses. HERBERT E. FEY, New Braunfels, Texas.

How to Support Lumber For Edge Dressing



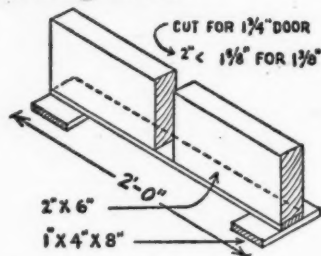
WITH THIS arrangement a C-clamp is hinged to a sawhorse so it can be used to hold work for edge dressing. The clamp is welded to the hasp, and the plate set flush to the end of the horse. In use, the clamp is swung upward, the pin holding it in this position. When not in use, it swings out of the way. HERBERT E. FEY, New Braunfels, Texas.

How to Pick Up Contours Of Mouldings



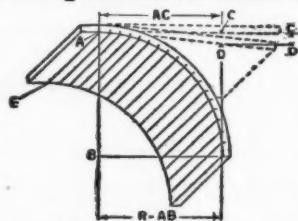
THE DEVICE shown above has been found very useful in picking up the contour of mouldings and odd shapes. The wood strips are held in place by clamps and wing nuts which are securely tightened in place after the strips have been pushed against the shaped member. The contour, thus formed, is then transferred. EARL E. BRANSTROM, Superior, Wis.

How to Make a Jig for Holding Doors



TO MAKE this jig take two pieces of 2x6's about two feet long, nailed together on bottom with 3/8-inch lath, and two pieces 1x4x8 inches long on each end to give clearance from floor. The weight of the door causes lath to bend, compressing 2x6's. J. C. HOMER, Vancouver, B. C.

How to Bend a Board To Any Desired Curve



CUT ONE saw kerf at AE. Then make the distance AC equal to the radius AB of the curve to which the board is to be bent. Then bend the board to the position AD until the saw kerf is closed. The distance between C and D is measured. The radius obtained will determine the cuts to be made. RICHARD H. BARNES, Colwyn, Pa.

AMERICAN BUILDING

Prominent Features Integrated into House Design

R. J. Alexander

TWO prominent characteristics of traditional house design which have been emphasized through the years, embrace the bay window and the featured entrance. Today, these features enjoy as large a measure of popularity in the minds of the building public, as they did back in the early colonial days.

Various adaptations of bay and entrance features are included in today's house plans. The placing of two such units on the front elevation of a small house usually creates a real problem in design. Considerable study should be given to the scale and location of the units, otherwise they will appear to become unwieldy in relationship to the balance of the house. Both the bay window and the entrance are combined in the general house design.

The arrangement, which is shown on this month's detail sheet combines the two elements into one featured and integrated unit.

The detail indicates the living room bay and the entrance porch which combine to form a pleasing group. The low cornice line, that literally is a continuation of the main roof cornice, extends around the entry and the bay and terminates the roof projection. The brick used for the entry steps and floor border, is employed as a header course around the bay. The clean vertical lines of the V-joint siding used on both bay and entry, present a pleasing contrast to the horizontal surface material used on the main body of the house. This material could be 3/4-inch lap siding with wide exposure, or double-coursed cedar shingles laid approximately 12 inches to the weather. The splayed recessed doorway and the wide stoop, which extends to the bay, provide adequate shelter from sun and rain. The construction method used in forming the splays in the doorway, as well as the indented effect obtained in the vertical surface of the porch post are worthy of note. The indented effect is re-introduced in the corner post of the bay window.

The entrance stoop slab is of reinforced concrete, with cement finish for the field and with red brick forming the border. The edge of the steps are brick, construction as detailed. The cement plaster ceiling of the entry should have a sand float ceiling. To obtain an unusual effect, the ceiling could be given a yellow tint, while the recess of the doorway and the back wall of the entry were painted either gray, blue, or barn red.

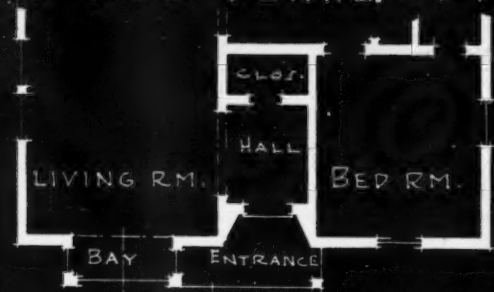
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BUILDER'S BETTER DETAIL PLATE

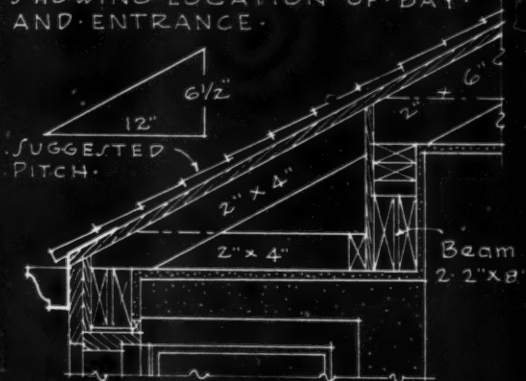
American Builder, December 1947.

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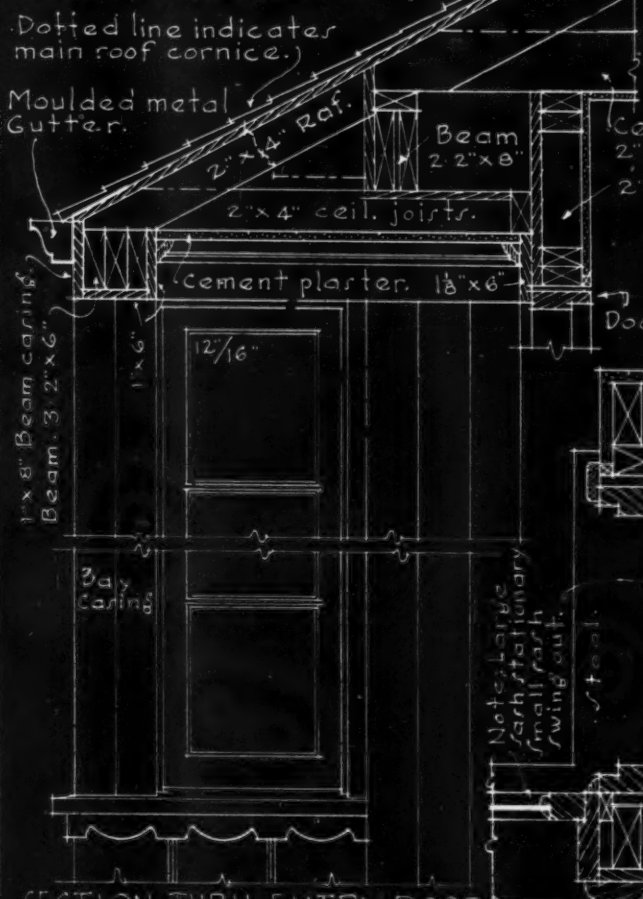
NO. D. 38. DETAILS OF FRONT ENTRANCE & LIVING ROOM BAY.



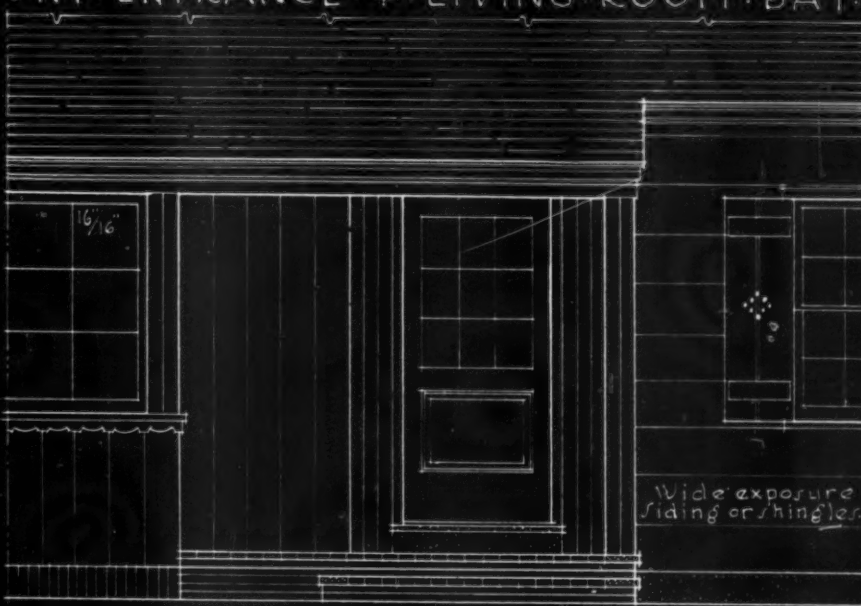
PARTIAL FLOOR PLAN
SHOWING LOCATION OF BAY
AND ENTRANCE.



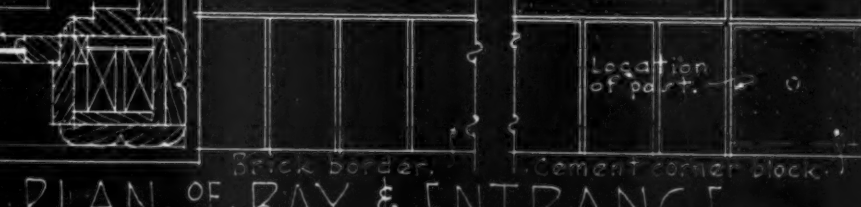
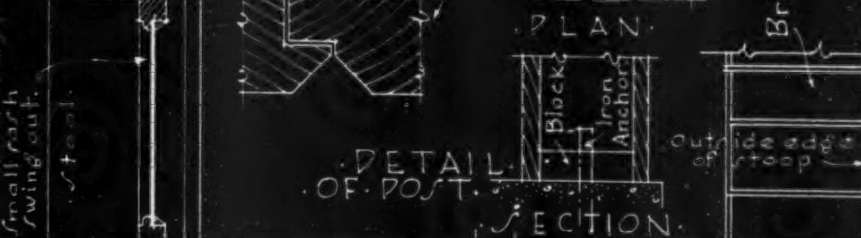
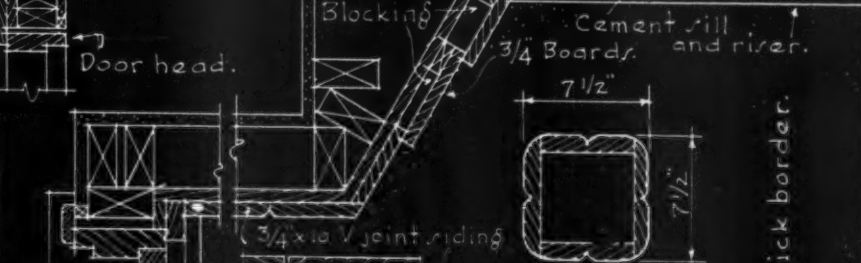
SECTION THRU ROOF
AND CORNICE OF BAY.



SECTION THRU ENTRY ROOF
SIDE ELEVATION OF BAY.



PART ELEVATION OF BAY & ENTRANCE.



PLAN OF BAY & ENTRANCE.



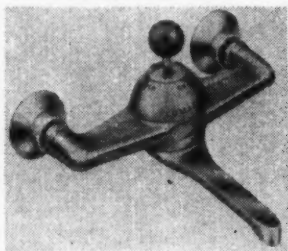
NEW PRODUCTS

Offered by Manufacturers

SINGLE CONTROL FAUCET

AB12704

A kitchen sink faucet, called Flo-Master, which regulates the temperature and volume of water with one handle is being produced by The Lorena Co., Dept. AR11917 Vose St.,



N. Hollywood, Calif. The unit is styled in chrome and plastic to fit all kitchen installations. Simultaneous control is achieved through use of a spherical valve with two inlet ports converging into one outlet port. The sphere or ball can oscillate from side to side and from front to back but cannot revolve. Moved to the extreme left, it opens the cold-water tap; moved to the extreme right, it opens the hot water tap; as the handle is moved from left to right, a uniform change in temperature is attained.

AWNING-TYPE WINDOW

AB12719

An awning-type window fabricated with automatic-locking hardware is being produced for the popular price market by the Ludman Corp., 21 N.W. 21st St., Miami, Fla. The automatic-locking operator responds to fingertip pressure and eliminates the need for springs, gears, or cranks. It permits the window to be easily opened to any degree of wind velocity and still work with ease. A removable sliding screen used in conjunction with this window is designed for interior installation. It slides up and down in a locking groove, is easily and quickly removed, and prevents stains or streaks on walls. This is an attractive, practical window for any type building. It may be obtained with two, three or more ventilators opening. Trade identification is "Auto-Lok".

MASONRY COATING

AB12715

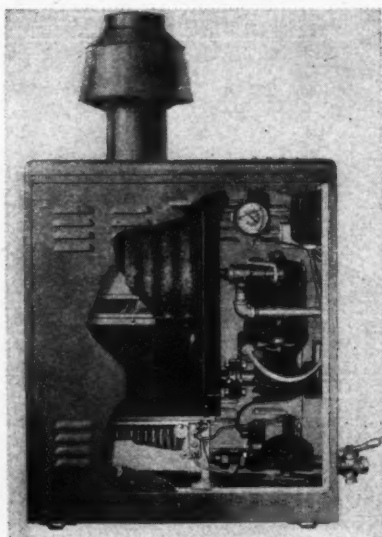
A new masonry waterproofing product whose water repellent qualities improve with successive washings and exposure to rain is being marketed by the Southern Sta-Rite Distributors, 2301 North Charles St., Baltimore, Md. It is compounded of inorganic materials ground to a fine powder. This powder is mixed with water and brushed or sprayed on porous masonry surfaces inside, outside, or below grade. Contact with water ex-

pands the microscopic contents of the coating to form a hard permanent and insoluble bond, and produce a finish that will not powder, flake or rub off. Included in the product is a proven and tested ingredient that prevents the growth of molds and mildew. Stock colors are white, grey, rose and buff, or the product can be painted with any oil paint, water paint, or other wall finish.

GAS-FIRED HEATER

AB12714

Production of the new Kehm Master, a gas-fired hot water heating boiler, is announced by The Kehm Corp., 135 So. LaSalle St., Chicago, Ill. This packaged unit contains all accessories necessary to a complete forced hot water heating



system including circulating pump, relief valve, limit control, relay, gauge, pilotstat, and draft diverter. It is delivered completely wired and assembled, ready to operate. Because of its compact size and provision for forced circulation, this unit can be installed in basements, utility rooms, attics, remote buildings, apartments, kitchens or closets.

CUSTOM BUILT GARAGE DOORS

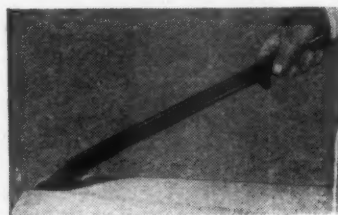
AB12705

R. L. Taylor, Inc., 12480 Evergreen Road, Detroit 23, Mich., announces a new custom built garage door service. Equipped to build doors to exact specifications for any size opening, the company states any type of wood, aluminum, or steel face can be furnished. The doors are built on extruded aluminum, rust-proof frames with an asphalt board backing that provides extra rigidity and insulation. Any type of hardware can be provided. Prices are figured on a square foot basis.

ASBESTOS SHEARS

AB12718

A handy tool for contractors using cement asbestos wallboard sheets and asbestos shingles is to be found in the lightweight shears manufactured by the O. Pearson Manufacturing Co., Lake Villa, Ill. These shears consist of two 24-



inches metal arms which pivot at the point of joining. One arm acts as a table rest for the material, while the other is equipped with a knife of tempered steel and a punch. The tool cuts by taking a series of bites, the cutting waste going through a slot in the other arm. This cutter enables an operator to easily and quickly follow straight or corner lines. Material to be cut can be in either a horizontal or vertical position.

RADIATOR CONTROL VALVE

AB12709

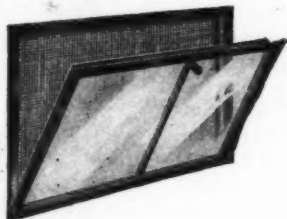
An automatic temperature control valve for steam radiators has been developed by the Heat Timer Corp., 160 Fifth Ave., New York, N. Y. Installed on an individual radiator in place of the ordinary air valve, this unit permits the room to be kept at a fixed temperature



without turning the inlet valve on and off. It is operated by a movable indicator and a scale of temperatures ranging from 55° to 80° etched on its cylindrical side. When the temperature within the room falls below the indicated setting, the valve automatically discharges air. This allows steam to enter the radiator until the room temperature has reached the desired degree of heat at which point the thermostat within the valve keeps the vent closed. No steam enters the radiator when heat is not wanted.

BASEMENT WINDOW**AB12721**

A new type basement window has been developed by Croft Steel Products, Inc., Jamestown, N.Y. Formed from hot rolled solid steel casement "Z" bar sections, this window has the same lines as the modern Lemco Steel Casements manufactured for use throughout a house,



and is of the same construction. No tricky opening devices or spot welded parts are used, and the usual applied fittings and parts are eliminated. The window opens in from the top. When open, the sash can be easily removed by lifting out of place without the use of tools, leaving an opening for bringing in materials or any other items. This window will fit any type of construction, including concrete block.

CONCRETE MIXER**AB12716**

Designed for unusual speed both on the job and enroute to the job is the 1-bag concrete mixer "The 6-S Trailsmith" product of the T. L. Smith Co., Milwaukee, Wis. Balanced, lightweight construction with low center of gravity and auto-type leaf springs combine to assure smooth towing at even high speeds. Outstanding features include automatic



high frequency skip vibrator, multiple V-belt drive, enclosed gear reduction unit with machine cut gears running in oil, anti-friction bearings, shock-absorbing cantilever spring suspension, pneumatic tires, collapsible tow bar and pivoted support bracket. The Trailsmith is available now with choice of engine and wheels, with or without batch meter and self-priming pump.

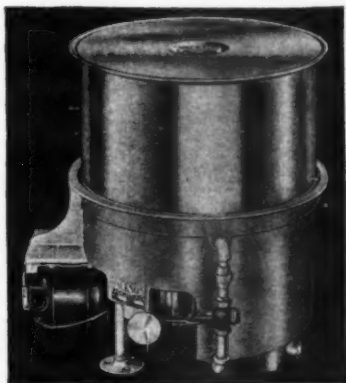
WOOD CASEMENT OPERATORS**AB12706**

A line of casement window operators for wood casements with internal, external, and horizontal gearing in a choice of materials and finishes is offered by H. S. Getty & Co. Inc., 3234 N. 10th St., Philadelphia, Pa. The line consists of three types of operators: Model 4703W, recently redesigned, which employs internal gearing and now features a solid bronze housing, plus simplified installation details; a new model, No. 4700,

which has the horizontal gear that can be used interchangeably for right or left hand casements, and the popular angle-drive external worm-and-gear model, No. 4715, which rounds out the line.

BUILT-IN DISHWASHER**AB12711**

The Jackson Dishwasher Co., 3703 East 93rd St., Cleveland, Ohio, manufacturers of dishwashing machines for restaurants, hospitals, and hotels, now manufacture a dishwasher for the home. The machine is designed for permanent installation in a kitchen cabinet, with only its top, which rests flush with the drainboard, in view when the unit is not



in operation. A standard unit will wash dishes for two or one hundred in about one minute, and rinse them as well. Water is pumped into the reservoir through double revolving spray tubes and withdrawn through the bottom; separate sprays carry the rinse water. Standard equipment are two baskets, one for dishes and one for glasses and silverware. The only manual operation required is to fill and empty these baskets, which are used one at a time.

PLASTIC WALL TILE**AB12717**

A new plastic wall tile with a self-aligning lap joint for easy installation is available from the Pittsburgh Tile Co., Terminal Bldg., Pittsburgh, Pa. The tongue-and-groove type lap joint on two sides of the tile with a center notch which fits a "dot" lock in the adjacent tile is a new feature in tile design. The dot lock secures each tile as it is set



in correct vertical or horizontal alignment with surrounding tile, and the lap joint eliminates possibilities of setting tile askew or with too wide a joint. The result is a complete plastic wall surface even under the tile joints which stops the mastic from forcing through while installation is being made and eliminates the need for grouting joints. The tile comes in a variety of colors.

STANDARD ARCH BEAD**AB12710**

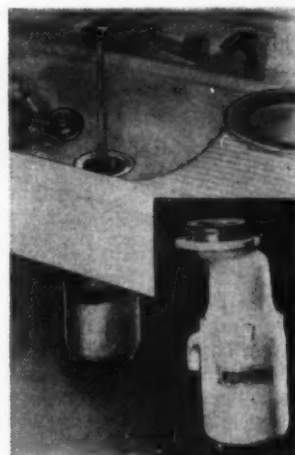
An arch bead which may be used equally well as a straight corner bead is made by The Alabama Metal Lath Company, Inc., P.O. Box 992, Birmingham, Ala. To use this bead for arches and other curved work, it is necessary to



snip one wing at the slots, as shown in the photograph, then bend to shape. This bead bends easily and quickly without kinks or wrinkles. Made of 26-gauge galvanized steel with 1½-inch flanges, it may be wired, nailed, stuck or clipped to all types of wall construction. Once installed, the bead protects exposed corners and arches from chipping, scarring, and cracking.

FOOD WASTE ELIMINATOR**AB12707**

A food waste eliminator which can be installed on existing plumbing after only the most minor changes are made, is manufactured by the Rousseau Corp., Burbank, Calif. Named Drain-O-Matic, the unit is designed



to fit both single and double kitchen sinks. It swiftly and cleanly shreds and flushes away small bones, scraps, peelings, rinds and pits, and is rendered odorless and clean at all times by an automatic water spray which functions during each operation.

FARM WATER SYSTEMS**AB12720**

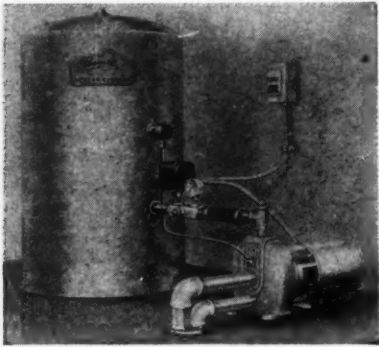
A new line of deep and shallow well self-priming centrifugal jet water systems is announced by Barnes Manufacturing Co., Mansfield, Ohio. Designed to serve farm and suburban residences, the line consists of 46 models of electric driven units and 11 models powered by gasoline engines.

Special features of the units are: pump and motor are horizontal and offset, giving access to well and piping without necessity of moving pump and motor; use of Barnes' famous principle of self-

(Continued to page 124)

(Continued from page 123)

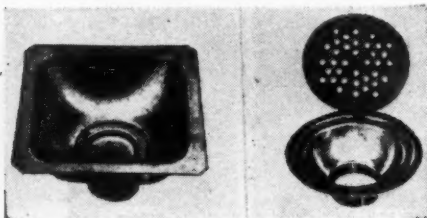
priming which means freedom from air locks and well-gas locking; the use of heavy duty electric motors to cut power costs and avoid motor trouble; incorporation of the self-lubricating



Barnes Jet system, eliminating the need of either oiling or greasing pump or motor; air volume control to assure correct volume of air in pressure storage tank at all times, and automatic water pumping equipment.

METAL PRODUCTS**AB12708**

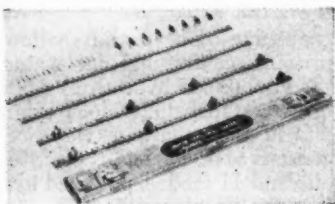
Floor drains, cesspools, and foundation ventilators fabricated from pressed steel are new products of Ronfeldt Associates, Inc., 150 S. Westwood Ave., Toledo 7, Ohio. This organization, devoted primarily to research and development, created these items to meet a need caused by the shortage of cast iron. Experience has



proved the products to be durable, unbreakable, and lightweight. Hot-dip galvanizing processes prevents rusting. The foundation ventilators have an adjustable vent. There are three types: a slide type for opening or closing; a cement block type slit vertical and formed outward for ventilation; and a brick face type which makes possible an unbroken surface in a brick side foundation.

SHELF SUPPORTS PACKAGE**AB12713**

Metal snap-on "level-shelf" supports for use in pantries, medicine chests, cabinets, wall cases, bookcases and clos-

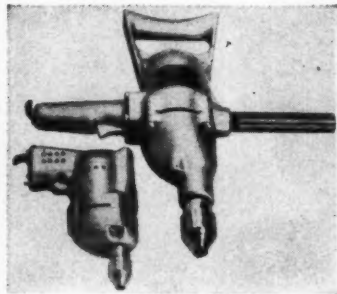


ets are now offered in a wrapped-up package direct to the consumer by the Wilmac Metal Products Co., 609 W. Fulton St., Chicago 6, Ill. These shelf rests will support tremendous weights

and are easily installed. A package contains four 24-inch slotted strips, 16 clips and the necessary nails. Strips are made of prime steel stock with a nickel plate finish. Mounting holes are inserted every six inches for firm support. For added strength and adjustment of space, the strips may be mounted end to end.

PORTABLE DRILLS**AB12702**

A new line of home utility portable electric drills, produced to sell at popular prices, are available from the Black & Decker Manufacturing Co., Towson, Md. These drills are powered by universal motors for AC-DC current, have strong, light, die-cast aluminum housings, sturdy gears, pinions and bearings, instant-



release trigger switch, fast-operating Jacobs chucks, and three-wire electric cord for ground connection. There are two sizes available: a 1/4-inch drill and a 1/2-inch drill. The 1/4-inch drill is compact for close-corner work, and has a hand-fitting shape; the 1/2-inch drill has a spade end and removable pipe handle.

ALUMINUM WINDOWS**AB12703**

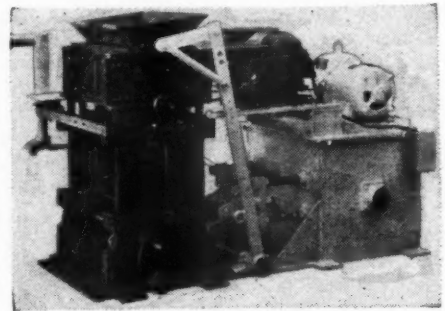
Double hung windows fabricated of Alcoa aluminum alloy and glazed with polished plate glass are being constructed by the NuEra Window Co., Bedford, Ohio. Designed to harmonize with all styles of architecture, these windows admit maximum light and vision by the use of extremely narrow aluminum muntins in an unusually large glass area. Made in standard sizes, the windows are shipped completely assembled, even to the plaster grounds and shade brackets, trim, soffit and hardware, ready for installation. An exclusive feature is a movable jamb member operated by a handle and push-button type lock which permits the window to be reversed for cleaning.

ELECTRIC LOCK**AB12701**

A keyless electric lock which has been field-tested for seven years and proven to be jimmy-proof and burglar-proof is being marketed by the Larmloc Sales Corp., 3169 N. Clark St., Chicago, Ill. A combination push-button mechanism connected to a small control cabinet concealed within the building operates the unit. There are 336 different combinations which will release the lock; the wrong combination disconnects it and sets off a scare device which may be anything from an alarm bell to store lights.

**AUTOMATIC DRIVE****AB12712**

An automatic drive which by simple mechanical principles activates all moving operations of the Little Giant concrete block machine is being produced by J. W. Appley and Son, Inc., St.



Petersburg, Fla., manufacturers of the Little Giant line of block machines, mixers, skip hoists, hoppers and pallets. Attached to any Little Giant vibrator machine, new or old, the automatic drive will produce four blocks per minute, fully vibrated and moulded into perfected dense, smooth blocks. It is driven by a 1 h.p. motor, rubber mounted, through a 50-1 reduction gear. All friction moving parts function in a constant oil bath, giving long life to this mechanism.

CHECK NUMBERS AND MAIL COUPON FOR INFORMATION

American Builder, 105 West Adams Street, Chicago 3, Illinois

NAME.....ADDRESS.....

CITY.....STATE.....

AB12701	AB12705	AB12709	AB12713	AB12717
AB12702	AB12706	AB12710	AB12714	AB12718
AB12703	AB12707	AB12711	AB12715	AB12719
AB12704	AB12708	AB12712	AB12716	AB12720
				AB12721

When you address inquiries direct to manufacturers concerning a new product described here, please mention that you saw it described in American Builder.



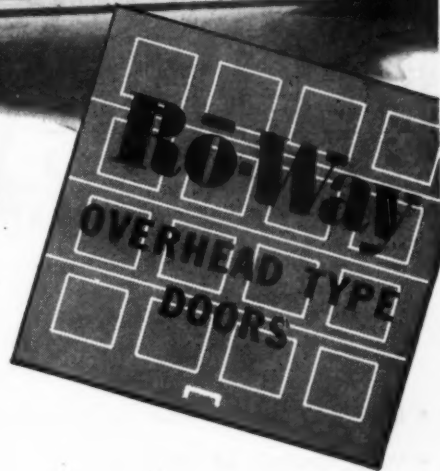
"UP-FRONT" DOORS *with Built-in Satisfaction*

It isn't just the handsome *front* they put up—but also what's *back* of Ro-Way Overhead Type Doors that makes satisfied owners.

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As for the doors themselves, they're made from top quality, kiln-dried lumber—with Parkerized *and* painted precision-type hardware. And *all* parts—tracks, rollers, supports, springs, sections, hardware—are Ro-Way designed, Ro-Way engineered, Ro-Way fabricated, right in Ro-Way's own plant.

If you want owner satisfaction on every job, just specify Ro-Way Overhead Type Doors—always.



*Ro-Way Doors are made for
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Dependable Ro-Way sales and installation service available all over America. See our Catalog in Sweet's.

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WOOD WINDOWS

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MENT WINDOWS

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BINATION DOORS

New BILT-WELL
LOUVRES AND
GABLE SASH

New CARR-DOR
OVERHEAD GARAGE
DOORS

New BILT-WELL
CORNER CABINETS

New BILT-WELL STORM
SASH

New BILT-WELL SCREENS

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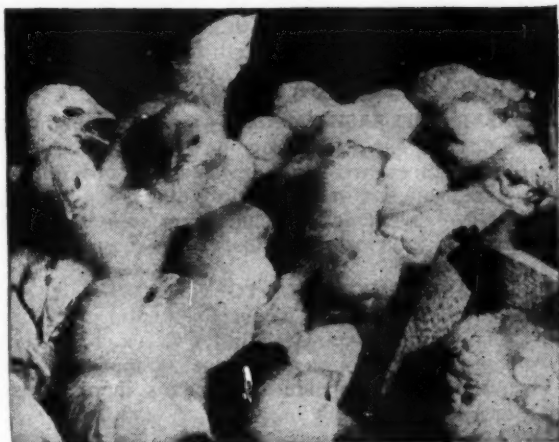


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Complete instalment note and mortgage services for the building industry exclusively.

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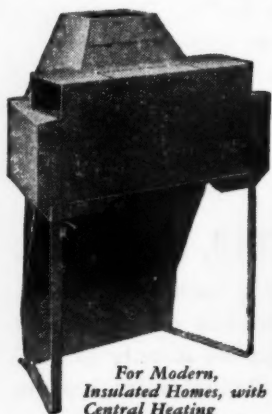
2601 First National Bank Building
SAINT PAUL 1, MINNESOTA

Offices in Principal Cities



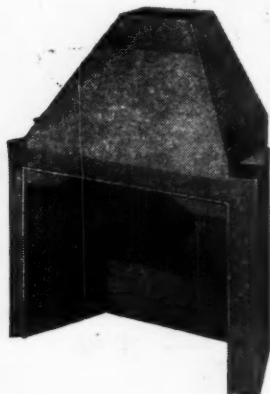
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NORWICH, NEW YORK

Catalogs and HOW-TO-DO-IT INFORMATION

379—PRECISION CAST PALLETS—of heat treated aluminum that build concrete blocks of clean cut accuracy are the subject of a pamphlet issued by Florida Die Casting Foundry, P.O. Box 1589, Orlando, Fla. Stock sizes are pictured and price list given. Important features of the pallets, the pamphlet points out, are their light weight, low cost, and great strength.

380—THE STORY OF ELLIOTT'S UNI-TEX—and the story of the promotion of Uni-Tex to help dealer sales comprise the contents of a colorful brochure by the Elliott Paint and Varnish Co., 4523 W. 5th Ave., Chicago, Ill. Sample advertisements and direct mail pieces, together with suggested displays highlight the product's outstanding qualities and offer concrete sales aids.

381—LOK'D BAR STEEL SASH CATALOG—is now available from Hope's Windows, Inc., Jamestown, N.Y. The design and construction features are illustrated with photographs and drawings. Size range, window opening dimensions and hardware details are given. Also included are suggested layouts for bays and for interior partitions.

382—SPECIAL ATTACHMENTS FOR FORK TRUCKS—is the subject of the Volume 5 issue of Material Handling News, published by Clark Equipment Co., Battle Creek, Mich. In 23 pages the book shows through action photographs and descriptive copy how interchangeable attachments increase usefulness of a fork-lift truck.

383—FLOORS FOR BASEMENTLESS HOMES—How asphalt tile flooring combats the moisture present in basementless homes is the topic of an eight-page booklet prepared by Armstrong Cork Co., Lancaster, Pa. Other applications illustrated and described cover laundries, bathrooms, and kitchens. A chart of patterns and colors available is shown.

384—AIR-CONDITIONING UNIT—A six-page folder which illustrates and describes the mechanical details of the Moncrief Oil-Fired Automatic Air Conditioning Unit, Series P, is available from the Henry Furnace Co., Medina, Ohio. The automatic submerged arc welding machine used in constructing the furnaces is an interesting feature.

385—INSULATING CONCRETE—for use on roof decks is the subject of a four-page folder prepared by the Universal Zonolite Insulation Co., 135 S. LaSalle St., Chicago 3, Ill. Specifications for a short span structural roof deck are given in detail.

386—HOW TO USE ATLAS SPEED FORMS—is the title of a 26-page pocket-size booklet prepared by the Irvington Form & Tank Corp., Irvington, N.Y. It presents pictorially the step-by-step procedure to follow in using Atlas wall forms. Descriptive copy and line drawings accompany the photographs.

SERVICE COUPON—CLIP and MAIL to CHICAGO

Readers Service Department
American Builder,
105 W. Adams St., Chicago 3, Ill.

(December, 1947)

Please send me additional information on the following product items, or the catalogs, listed in this department:

Numbers.....

Name

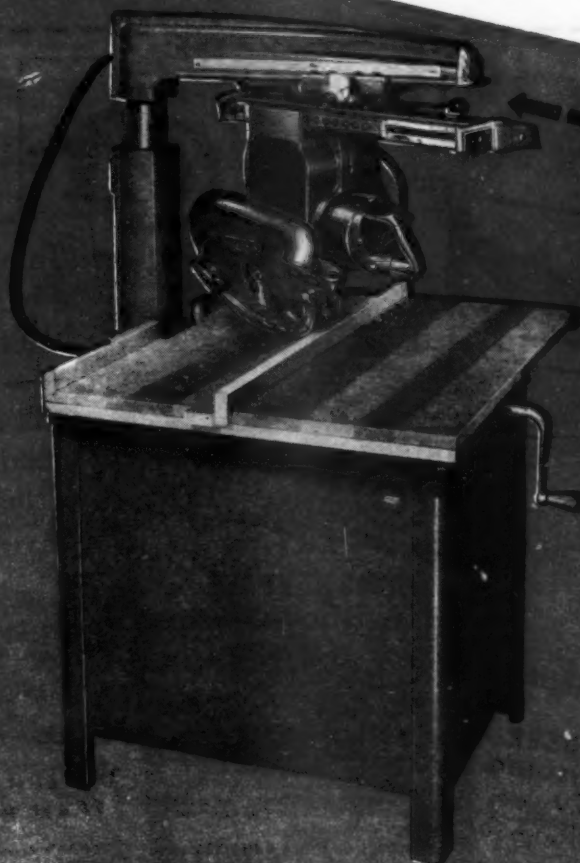
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City..... State.....

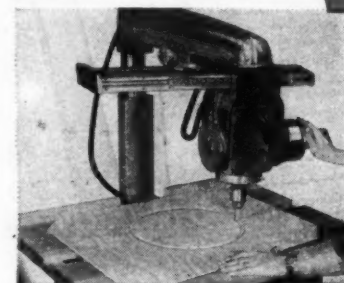
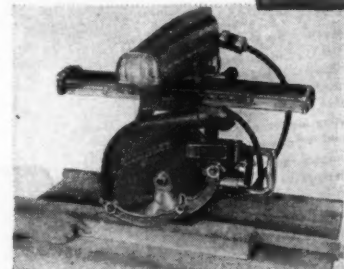
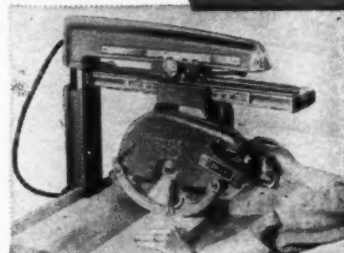
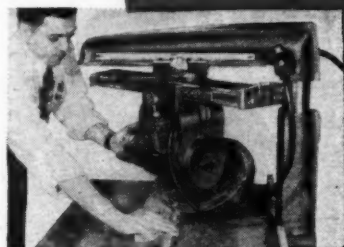
OCCUPATION*

*Please note that occupation must be stated if full service is to be given.

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**MULTIPLEX
MODEL 40A**



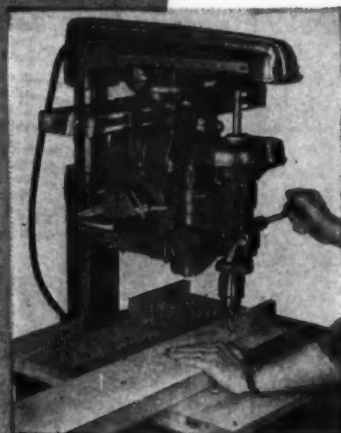
GREATER FLEXIBILITY, SPEED, ACCURACY

A single MULTIPLEX Radial Arm Saw will perform almost any wood working operation and will do the job quickly, accurately and with exceptional ease of operation.

Its surprising performance is due primarily to the Multiplex **EXCLUSIVE VERSATILE ELBOW** or center pivoted track which is also movable backward and forward on the sturdy rigid overarm.

This provides an infinite number of saw positions with 100% mitering capacity. Left hand as well as conventional right hand miters up to 90° are cut with the saw in the approximate center of the table. No lost travel of the cutting head. The greater flexibility and versatility of the Multiplex permits more operations, greater production and lower operational cost.

Write today for literature and name of nearest dealer.



THE VERSATILE MULTIPLEX
WILL CROSS CUT..RIP..MITER
BEVEL CUT OFF..BEVEL RIP
COMPOUND MITER..ROUTE
CIRCLE ROUTE..SHAPE
FLOW..DADO..RAFTER
NOTCH..TENON..RABBET
CARVE..SAND..PLANE

MULTIPLEX

Radial-Arm Saws

RED STAR PRODUCTS INC.
3455 VEGA AVE., CLEVELAND 13, OHIO U. S. A.

The Multiplex Models 30A and 40A can be quickly and easily converted into high speed, ball bearing radial arm drill presses attached to, and driven by, the saw motor. Valuable also for shaping, carving, routing, circle routing, sanding, planing and many other operations.

MAINE...needs Potato Storage

To plan
a potato
warehouse...

that
"wings out"
wet air...

WEYERHAEUSER 4-SQUARE FARM BUILDING SERVICE

Every farm building has a job to do... farm production, in saving chores, or in equipment. When a building is well planned, it has "good functional design."

The potato warehouse shown above uses an ingenious ventilating system to excess moisture from the potatoes, and content at all times. In this way, good possible value of the crop.

Good functional design will also be found in the Weyerhaeuser 4-Square Farm buildings. Hog houses are planned to help pig bigger litters. Dairy barns are planned to save steps every hour.

You will also find, in Weyerhaeuser farm buildings, structural soundness... economy of right materials in the right place... many chore-saving features.

The 4-Square Farm Building Service gives you ideas. It provides complete plans for every 4-Square lumber dealer... he'll help you. There is no charge.

FREE! FARM BUILDING BOOK... condensed edition of these building plans.

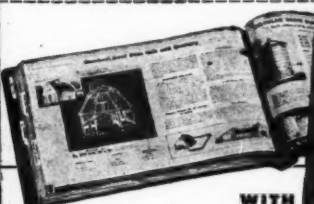


WEYERHAEUSER 4-SQUARE LUMBER AND SERVICES

Use the
right
materials...



at the
right
places...



WITH WEYERHAEUSER 4-SQUARE FARM BUILDING SERVICE

This combination corn crib and granary is a standing extra-value feature of the Weyerhaeuser Building Service. Buildings of this type must stand terrific loads... and in the design shown here, it is doubly assured by use of the right materials.

First, framing members and bracing have high load bearing strength. Second, the Teco connector shown above makes it possible to use the working strength of the wood members to ordinary bolt construction which utilizes the wood strength. With the Teco split ring, obtained with lighter wood members and at less material cost.

SCORES OF OTHER BUILDINGS...

Your lumber dealer has the Weyerhaeuser Building Service at his yard ready for you. You will find designs and blueprints for scores of buildings. Each is planned for the extra-value features of strength, step-saving convenience, economy of material, and increased production.

Before you build, plan with this helpful service. Your lumber dealer will gladly explain its many different features. You will see why good wood buildings are the best.

FREE! FARM BUILDING BOOK... condensed edition of these building plans.

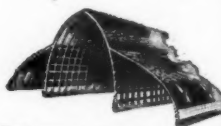


WEYERHAEUSER LUMBER AND SERVICES

To plan
a barn
like this...



built as
soundly
as this...



SEE THE WEYERHAEUSER 4-SQUARE FARM BUILDING SERVICE

Strong, solid construction belongs in every farm building because it gives you a structure that will do a better job over a long period of time. Structural soundness pays.

Good buildings are engineered to stand firmly under heavy snow loads, wind loads, and the loads of stored contents. Solid footings to meet different soil conditions and strong foundations should be specified, together with the selection of the correct grades and sizes of framing lumber, and the correct grades and species of lumber used for exposure to weather.

Skilled engineers plan, specify and show how to obtain strong framing, rigid bracing, and properly made joints which tie a building solidly together into a strong wind-resistant structure.

This is the kind of planning that marks every building of the Weyerhaeuser 4-Square Farm Building Service. All the buildings in this Service, and there are scores of them, are designed for structural soundness, as well as for economical erection, proper use of materials, economical upkeep, labor saving features, and increased farm production.

The Weyerhaeuser 4-Square Farm Building Service was developed to help you obtain better buildings. Your lumber dealer has this Service ready for you. Feel free to use it often. It gives you ideas, plans, blueprints, specifications... everything you need to secure strong, long lasting farm buildings.

FREE! FARM BUILDING BOOK... If you would like to have a condensed edition of the Planning Guide, mail this coupon today.



WEYERHAEUSER SALES COMPANY
Post National Bank Building, St. Paul 1, Minn.

Please send me the Free Farm Building Book.

Name _____

Address _____

City _____

WEYERHAEUSER 4-SQUARE LUMBER AND SERVICES

● See your lumber dealer and ask him to show you the Weyerhaeuser 4-Square Farm Building Service. See the scores of designs for every type and size of farm building. Familiarize yourself with them so that you can use them to help farmers in their planning.

IOWA...wants Corn Crib

AMERICAN FARMERS EVERYWHERE ARE SERVED WITH DESIGNS FROM THE WEYERHAEUSER 4-SQUARE FARM BUILDING SERVICE

TODAY farmers are on a critical search for sound building values... and they're looking chiefly at lumber... the time-tested, time-proved material for good farm buildings.

Farmers can expect great value from wood when they plan with the help of the Weyerhaeuser 4-Square Farm Building Service. The scores and scores of designs in this Service are the result of the collaboration of agricultural extension specialists, farm owners and managers and Weyerhaeuser engineers.

This pooling of practical experience and design talents brings to farm buildings the extra value features of structural soundness,

the correct use of materials, economy of construction, low upkeep, convenience of use and increased farm production. Here are guides to honest building value... and farm structures that last years longer, with low upkeep.

Contractors who use this Service, which is made available by Weyerhaeuser 4-Square Lumber Dealers, are finding it a means of delivering great value and a convincing demonstration of how good wood buildings make the best farm buildings. They are using this Service to fortify their position in the farm market with lumber, the most versatile, most easily workable material for farm construction.

WEYERHAEUSER SALES COMPANY
SAINT PAUL 1, MINNESOTA



WEYERHAEUSER 4-SQUARE
LUMBER AND SERVICES

New!



HERE'S A REAL TIME-SAVER FOR YOUR STANLEY SAFETY SAW!

YOUR PORTABLE SAW becomes a bench saw quickly and easily with this new Stanley No. 158 Saw Track. Made for use with the W7, W8 or W9 Stanley Safety Saw, the Stanley Saw Track is a real time-saver as a guide in making square, bevel and bevel mitre cuts, or cutting lumber to exact sizes. You no longer have to lay out and

mark each piece of lumber. Hours of lost time become real productive time. And when abrasive wheels are used, you can cut slate, marble and other hard materials. Get the full details on the labor-saving Stanley No. 158 Saw Track now. Ask your distributor, or write Stanley Electric Tools, 492 Myrtle Street, New Britain, Connecticut.

How To Use The New Stanley Saw Frame

1. To set up Saw Frame, simply drill a $\frac{3}{8}$ " hole in bench for locating pin. This is a pivot point, and with holes drilled for locating pin in opposite end of frame any desired angle can be laid out.
2. Block up board to be cut to desired height and install work stop.
3. Saw Guide is adjustable. Move in or out to suit width of the base of the saw.
4. Adjust guard trip plate to proper position.

STANLEY

Trade Mark

HARDWARE · HAND TOOLS · ELECTRIC TOOLS

Floor Furnace Heating

(Continued from page 99)

culated, or 84,770 B.T.U. per hour.

To produce the amount of heat required to heat the building, two floor furnaces, having a capacity of 50,000 B.T.U. output each, were selected. Two furnaces were selected because the house plan seems to be divided naturally for two zones of about an equal size. The living zone includes the living room, dining room, kitchen, and utility room. The sleeping zone includes the bedrooms, bath, hallway, and reception room. Dual-wall floor furnaces do not fit into the house arrangement. Therefore, two-floor type units were selected.

The two floor furnaces are located and indicated as "A" and "B" on the floor plan. Furnace "A" is near the center of the living zone, and its location will amply take care of the living room as well as provide sufficient heat to the dining room, kitchen, and utility room. Furnace "B" supplies the heat to the connecting rooms off the hall, which constitute the sleeping zone. The doors may be closed into any of the rooms where heat is not desired. During early fall or late spring, when mild days are encountered, furnace "A" will quite easily heat the entire building. The heating of the entire building by furnace "A" is accomplished by keeping the room thermostat for that unit set at the desired temperature and setting the thermostat for furnace "B" at a lesser temperature. In severe weather, it will be necessary to set both thermostats to the desired temperature in order to maintain the required comfort condition. By zoning the building in this manner, better heating will result, and fuel will be saved. The thermostat locations are indicated on the plan by small circles and should be located at the breathing line when a person is seated.

It will be noted that furnace "A" is connected to the original chimney shown on the plan. It was, however, necessary to build an additional chimney for furnace "B" since the location exceeds the maximum length permissible from the original chimney with which to expect a good draft condition. The new chimney is shown in the closet, thereby leaving the rooms intact as originally planned. If gas is used as a fuel, the new chimney stack for furnace "B" could be constructed of transite, metal-bestos, or similar material and good safe results would be obtained. For both furnace "A" and furnace "B," the horizontal vent pipe should be constructed of black or galvanized iron whether gas or oil is used as a fuel.

In any floor furnace installation, and whether gas or oil is used as the fuel, if the vent pipe passes through a cold space, it should be covered with at least a 1-inch thick air-cell pipe covering or with some other equivalent insulation. Gas-fired furnaces are usually provided with a draft diverter built into the furnace. However, if the furnace should

(Continued to page 138)

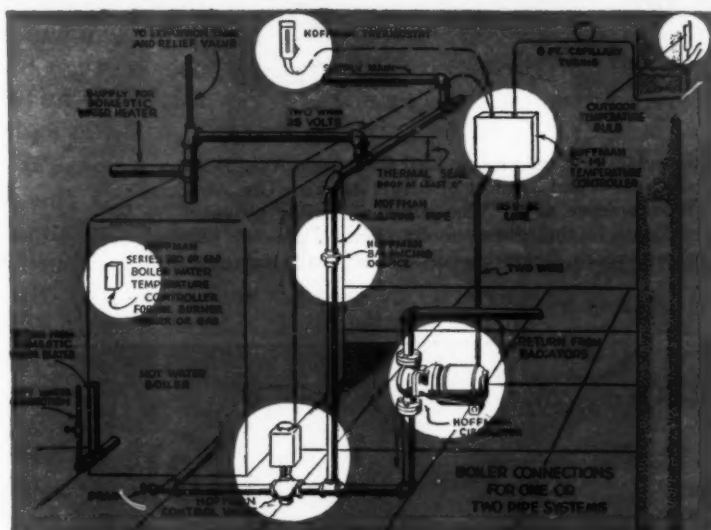
HOFFMAN C-141

HOT WATER

Comfort Package



A POPULAR PRICED CONTINUOUS CIRCULATION SYSTEM... THERMOSTATICALLY CONTROLLED



HOFFMAN C-141 CONTROLLER: Automatically maintains indoor comfort and temperature by combining Room Thermostat control with continuous circulation of the heating medium.

HOFFMAN CIRCULATOR: Continuously circulates the heating medium throughout the heating season. Automatically stops with the end of the heating season and starts again in the fall when heat is required.

HOFFMAN CONTROL VALVE: An especially designed valve to keep the hot water in the heating system at the desired temperature to maintain heating comfort.

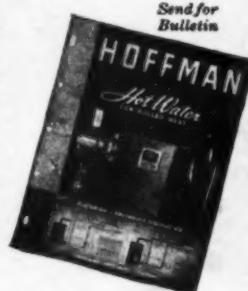
HOFFMAN BALANCING ORIFICE: Engineered to maintain proper balance between the circulating pipe and boiler circuit.

HOFFMAN ROOM THERMOSTAT: Heat anticipating thermostat adjustable to slow, medium and fast cycles.

The Hoffman C-141 Comfort Package offers *precisely controlled heating*—yet the cost is within the budget of even modest homes.

The uniformity of a *continuously circulated* forced hot water heating system can now be obtained with simplified and inexpensive equipment. The new Hoffman C-141 Comfort Package combines a Circulating Pump, Temperature Controller, Control Valve and Room Thermostat.

In operation, the C-141 Comfort Package effects a constant balance between heat loss and heat supply, so that the home temperature is held uniform, regardless of weather variations. Note in the diagram that the boiler is by-passed from the rest of the circulating system. Hot water from the boiler is admitted *only* when the room thermostat requires additional heat. Hence the system keeps pace with the actual need for heat and never delivers a fuel-wasting excess.



HOFFMAN

SPECIALTY COMPANY

1001 York St., Dept. AB-12, Indianapolis 7, Ind.

MAKERS OF VALVES, TRAPS, PRESSURE REDUCING VALVES, TEMPERATURE REGULATORS, VACUUM AND CONDENSATION PUMPS, FORCED HOT WATER HEATING SYSTEMS... SOLD BY WHOLESALE OF HEATING AND PLUMBING EQUIPMENT.

Here is the ideal year-round air

**SERVEL ALL-YEAR GAS AIR
SEASON COMFORT, PROMOTES**



The home of Architect Otto Woestemeyer, 2351 Claremont Ave., Houston, Texas, features the year-round comfort of Servel All-Year Gas Air Conditioning. Mr. Woestemeyer says, "The summer cooling provided by Servel is most welcome in this warm, moist climate. The air filtering qualities of Servel are superb. Operating costs have been amazingly low."



"We are entirely satisfied with the performance of our Servel," writes Gordon Brown, 4519 Firestone Blvd., South Gate, California. "The comfortable condition of our building is complimented by everyone and is the delight of our employees."



Customers and employees alike appreciate the comfortable indoor temperature and humidity that Servel All-Year Gas Air Conditioning maintains the year round in Silverstein's Women's Apparel Store, 342-344 DeSiard Street, Monroe, Louisiana.

conditioner for offices, stores, homes

CONDITIONER PROVIDES ALL- HEALTH, EFFICIENCY, BUILDS PROFITS

YOU'RE on safe ground when you recommend Servel *All-Year Gas Air Conditioning*. Hundreds of installations are operating successfully from coast to coast. And users everywhere are enthusiastic.

Home owners praise the just-right temperatures, the dehumidified, dust-free indoor climate provided by Servel through every season. Business and professional men report rises in employee health and efficiency, reduced absenteeism. Merchants tell of increased patronage, higher sales volume. All agree that the benefits of Servel *All-Year Gas Air Conditioning* will more than pay for it in a short time.

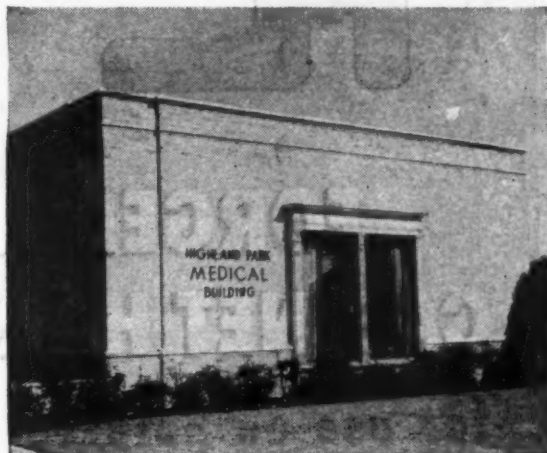
One Unit Does Year-round Job

The reason for this tremendous success is that the Servel Conditioner is completely different from any other air conditioning unit. Servel is a complete air conditioning system in one unit, operating through scientifically designed ducts and registers. In summer, Servel refrigerates and dehumidifies air. In winter, Servel heats and humidifies it. Servel also filters out dust, dirt and irritating pollen.

Whenever you are planning new construction that would benefit from the advantages of Servel *All-Year Gas Air Conditioning*, be sure to tell your clients about it. For additional testimony about specific applications, get in touch with your local Gas Company. Or write to Servel, Inc., 1712 Morton Avenue, Evansville 20, Indiana.



Connie's Prescription Shop, 1209 North Walker, Oklahoma City, Oklahoma, is kept comfortably cool in summer, warm in winter by the Servel *All-Year Gas Air Conditioner*. C. J. Masterson, proprietor, reports, "Our Servel Conditioner has been 100 per cent satisfactory."

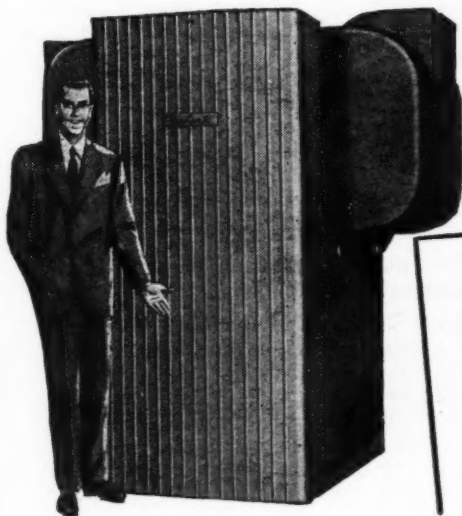


Patients, doctors and nurses in the Highland Park Medical Building, 5450 Preston Road, Dallas, Texas, all enjoy Servel-supplied cool, clean, invigorating air in summer and clean, draft-free warmth in winter.

TRIED . . . PROVED . . . SUCCESSFUL

(From Boston to San Diego . . . From Bismarck to Miami)

The Servel *All-Year Gas Air Conditioner* is already operating successfully in hundreds of installations from coast to coast. Some have been running for more than seven years. The equipment is tried, tested . . . and approved by users everywhere.



Servel
All-Year GAS AIR CONDITIONER



FORGED IRON CABINET HARDWARE

for use on painted surfaces as
well as on natural wood finishes.

Quality Hardware
Since 1865

McKINNEY

MANUFACTURING COMPANY

PITTSBURGH 12, PENNSYLVANIA



(Continued from page 134)

not come equipped with a draft diverter, one should be provided to maintain a uniform gas flame. Oil-burning furnaces should be equipped with an automatic draft regulator installed in the vent pipe.

The fuel connections are made to floor furnaces just as they are with any other heating equipment. With an oil-burning installation, the fuel tank is usually located above the ground at a height to permit oil to flow by gravity to the furnace. It is, however, possible to install a buried tank and use an automatic electric pump to lift the oil from the tank to a point above the burner level so that it will flow to the burner by gravity. It is also possible to have a single pumping unit to supply the oil to two or more furnaces.

The floor furnace can hardly be classified as a "deluxe" heating system. However, it can be made automatic, it is efficient, and will provide clean heat at a satisfactory degree of comfort. These advantages at a relatively low initial cost make the floor furnace system of heating adaptable and desirable for low cost modern homes. The heat loss calculations were obtained from the Coleman Condensed Method for figuring heat loss.

New Plant Manager of Asbestos Limited, Inc.

RAYMOND W. ADAMS was recently appointed plant manager of Asbestos Limited, Inc., Millington, N. J., manu-



RAYMOND W. ADAMS

facturers of asbestos cement siding shingles, R. R. Galloway, president, announced recently.

Prior to joining Asbestos Limited, Inc., Mr. Adams was associated with the Ruberoid Company for 14 years in various capacities, the last four years as assistant superintendent and also master mechanic at Bound Brook, N. J.

James Merrick Heads Storagewall, Inc.

JAMES H. MERRICK has been elected president and chairman of the board of directors of Storagewall, Inc., of Indian Orchard, Mass. Storagewall produces a line of pre-built, interchangeable units which provide compact storage and furniture facilities and also can be used as walls.

Now Available!

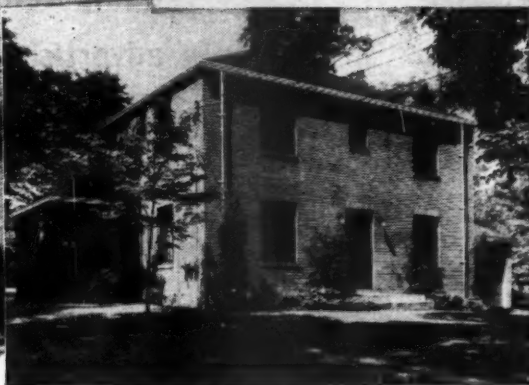
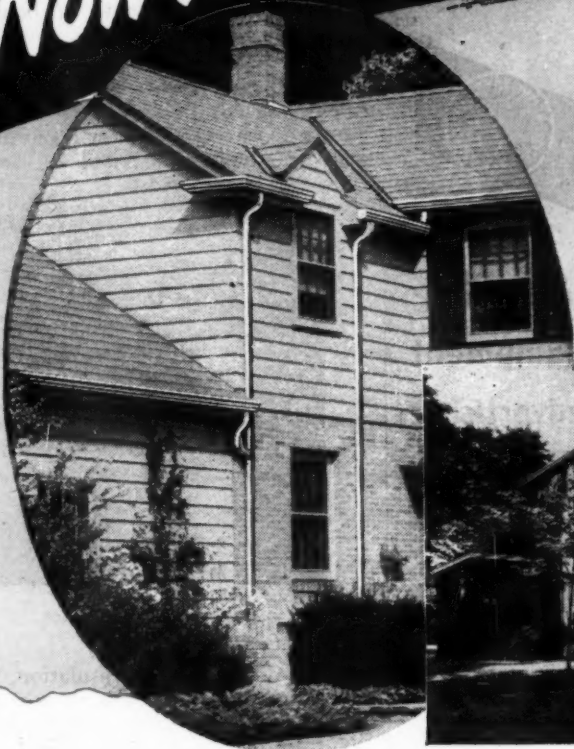
STAINLESS STEEL

FOR GUTTER

DOWNSPOUT

CONDUCTOR PIPE

FLASHING



Architects prefer stainless steel because it is a proven functional material in the modern style. Low coefficient of expansion and contraction eliminates expansion joints....permits greater freedom in design. Stainless steel is beautiful....everlasting....and available right now.

Builders prefer stainless steel because its instant eye appeal and permanent beauty make a better, more salable product. Corrosion-proof stainless steel gutter, downspout, conductor pipe and flashing is light, bright, water-tight.... never needs replacement.... can be erected with or without paint. And stainless steel is available right now.

Home Owners prefer stainless steel because it is more attractive.... permanent.... reduces upkeep.... does not stain painted, stucco, masonry or brick walls and surfaces. Building need not be delayed because stainless steel is available right now.

Full details upon request. Write

SHARON STEEL CORPORATION

Sharon, Pennsylvania

SHARONSTEEL

PRODUCTS OF SHARON STEEL CORPORATION AND SUBSIDIARIES: THE NILES ROLLING MILL COMPANY, NILES, OHIO; DETROIT TUBE AND STEEL COMPANY, DETROIT, MICHIGAN; BRAINARD STEEL DIVISION, WARREN, OHIO; SHARONSTEEL PRODUCTS COMPANY, DETROIT, MICHIGAN, AND FARRELL, PENNSYLVANIA. Hot and Cold Rolled Stainless Strip Steel—Alloy Strip Steel—High Carbon Strip Steel—Galvanite Special Coated Products—Cooperage Hoop—Detroit Seamless Steel Tubing—Seamless Steel Tubing in Alloy and Carbon Grades for Mechanical, Pressure and Aircraft Applications—Electrical Steel Sheets—Hot Rolled Annealed and Decarburized Sheets—Galvanized Sheets—Enameling Grade Steel—Welded Tubing—Galvanized and Fabricated Steel Ship—Steel Strapping, Tools and Accessories.

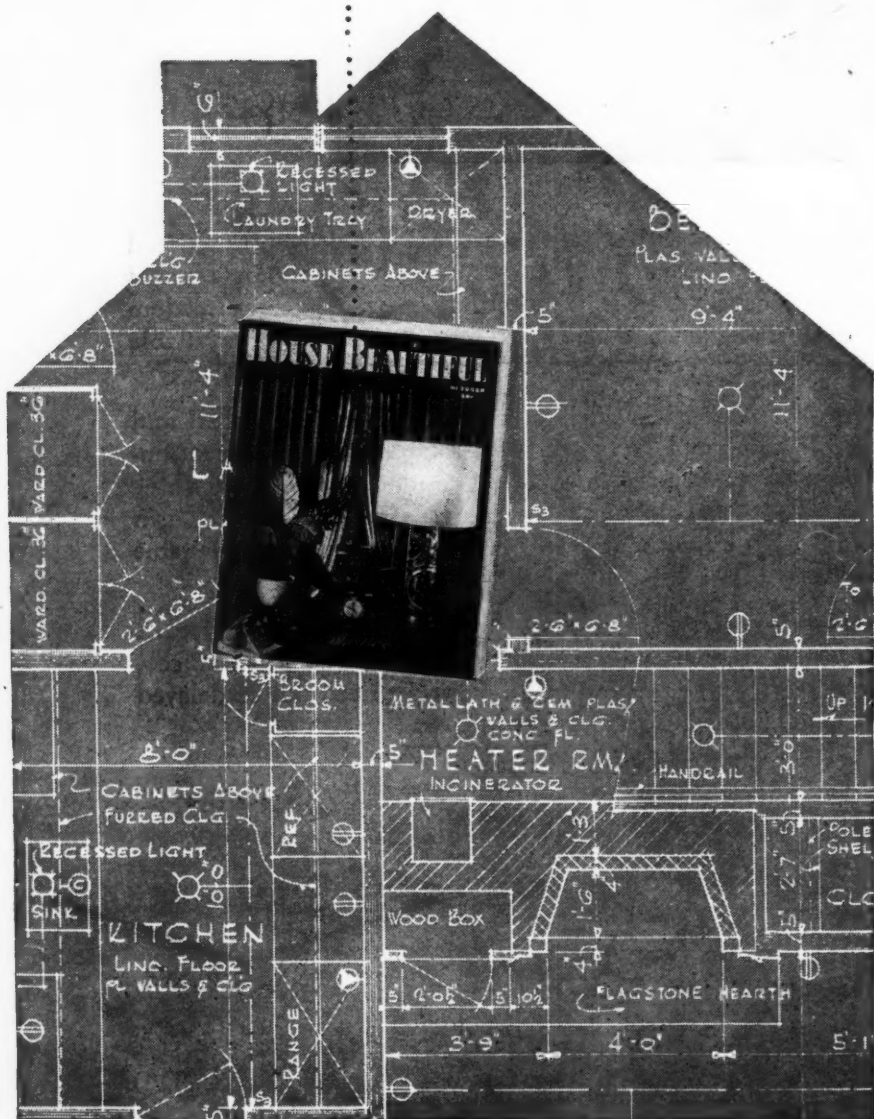
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Source: "Leading National Advertisers," June 1947,

Ruth

House Beautiful leads all magazines

...in building
equipment
advertising



Proper Duct Insulation Lowers Plant Expense

WHILE the importance of duct insulation is recognized generally, not everyone understands the importance of using proper installation techniques. Good duct insulation prevents heat from radiating into or being absorbed from work areas. In other words, it reduces heat loss to a minimum.

The three general duct usages which require insulation are: 1) carrying hot gases; 2) carrying air for room heating and air conditioning; and 3) carrying

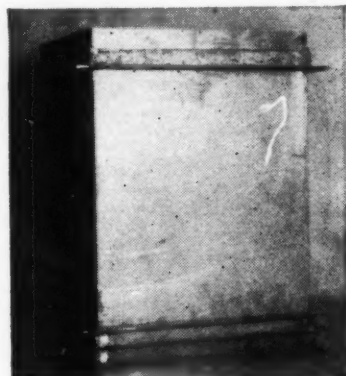


FIGURE 1

cool gases. For inside insulation, when the temperature gradient is not great, the following procedure is recommended:

1) Clean the duct of all dirt and grease (See Figure 1); 2) cut mineral wool blocks to conform to the area to be insulated; and 3) wire the blocks to the ducts. Galvanized or expanded metal angles are recommended to keep the blocks in line at the corners. (See Figure 2)

When the temperature gradient is greater than that encountered in room

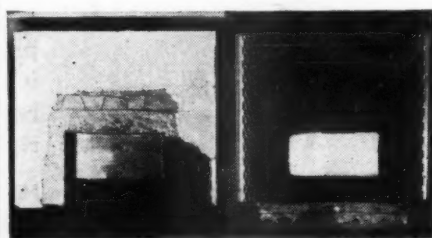


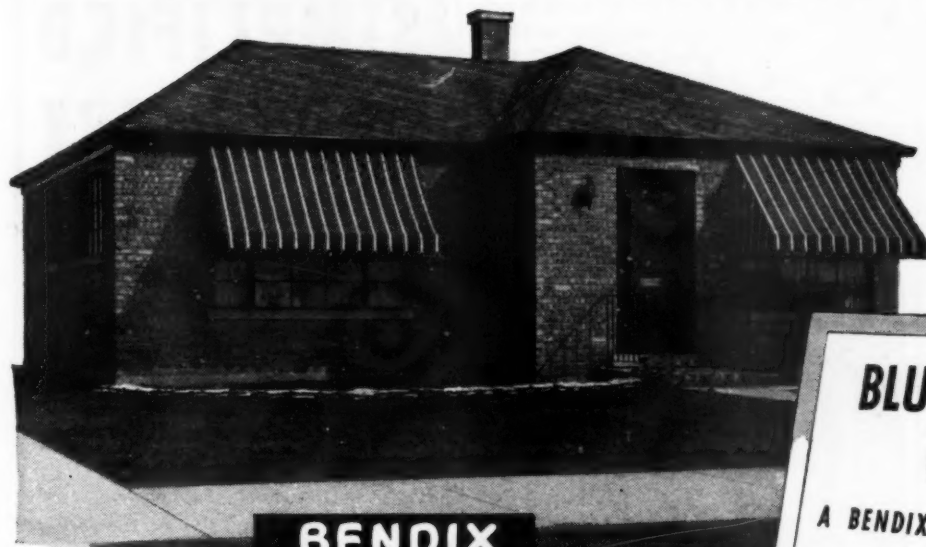
FIGURE 2 FIGURE 3

heating and air conditioning, additional steps are advised. (See Figure 3) They are as follows:

1) Trowel a half inch coating of mineral wool insulating cement over the surface of the blocks; 2) follow this with a layer of 1-inch mesh poultry netting; 3) apply a ¼-inch coating of finishing cement.

In cases where the contents of the duct are at a lower temperature than the surroundings, an asphalt or other type vapor barrier must be applied to the insulation exterior in order to prevent moisture from permeating the mineral wool and condensing.

"AND THE CUSTOMERS LOVE IT!"



BENDIX
automatic
Home Laundry Equipment
is installed in this Home
BLUE CONSTRUCTION CO.



● Thurman Blue, President of the Blue Construction Co. of Calumet City, Illinois, credits much of the company's selling success to the policy shown above. In Lansing, and Burnham, Ill., 550 homes will soon be finished, selling for \$8800 and up. And they're selling faster than they can be built.

"With the Bendix installed, we've never had a turn-down," says Mr. Blue. And you can see why that is. The house is planned to include the laundering operation. The Bendix Washer (and the new Bendix automatic Dryer, in many cases) fits into the kitchen or utility room in space definitely planned for it.

That's something the customer appreciates! For she knows the Bendix automatic Home Laundry will do all the washday drudgery for her. And she appreciates too, the fact that her Bendix is paid for as she pays for the house.

You too, can sell your houses fast, and at a premium price, if you take a tip from successful operative builders all over the country. See your Bendix Dealer now—and put the "Sign of a Smart Builder" on the houses you want to sell.



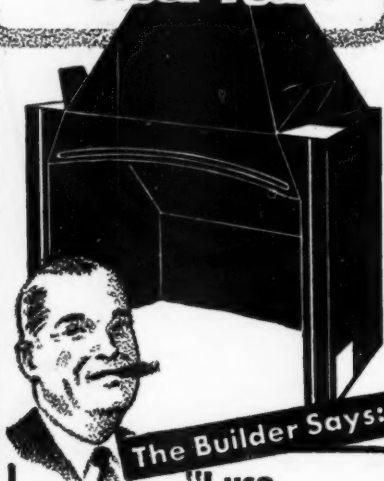
BENDIX automatic Home Laundry

BENDIX HOME APPLIANCES, INC., SOUTH BEND, IND.

Join the FIREPLACE TREND

Save Labor
and Materials

by using this
Steel Form



The Builder Says:
"I use

Fyro-Place

on my Jobs. Saving 16 hours labor plus damper and firebrick, offsets the cost. This scientifically engineered fireplace helps sell my houses."

The Owner Says:

"I GET

a modern warm
air circulating
fireplace instead of a
smoky, drafty, old-fashioned
one—at no greater cost."



Write for full information
and FREE copy of
100 fireplace de-
signs. A storehouse
of ideas on fireplace
styles and materials.



PRICE FIREPLACE HEATER
& TANK CORPORATION
2 Austin Street Buffalo 7, New York

Adjustable Steel Posts Speed Akron Building Job

ADJUSTABLE steel posts, used in new construction, were installed faster at lower cost on a 400-home project near Akron. Jack Heslop, vice-president and general manager of the Heslop Construction Company, decided to use the posts in the basements of houses being erected at Cuyahoga Falls, Ohio.

Heretofore, adjustable steel posts have been used mainly for shoring up or reinforcing old homes. But in the Heslop



TEL-O-POST, used for bracing of beams and joists in basements of homes

project, five posts are placed on the concrete footings in the basement of each new house. When the posts were fixed securely, the finished floor was poured over and around their bases.

Because cutting and shimming was not necessary, unskilled labor was used to place the support posts. Heslop reports that the adjustable posts are very stable and that they also are proving a good selling point, since prospective home buyers like the neat appearance of the basements.

The Tel-O-Post, illustrated here, has an adjusting range from five feet seven inches to eight feet four inches. It is capable of withstanding a load of over 20,000 pounds and has been approved by



ADJUSTABLE steel posts were used in basements of this 400-home Heslop project

the New York City Board of Standards and Appeals as well as by the Central District Office of the Federal Housing Administration. In addition to being used for permanent bracing of cross beams and joists in new homes, adjustable posts will brace sagging members of barns and can also be used as the foundation supports for homes without basements.

THIRD EDITION

SIMPLIFIED CARPENTRY ESTIMATING

By J. DOUGLAS WILSON

Coordinator, Apprentice Education,
Carpentry and Cabinet Making Los
Angeles City Schools Los Angeles,
California

and CLELL M. ROGERS

Mathematics Instructor,
Venice High School, Venice, California

A practical text on carpentry estimating, covering rough lumber, finish lumber and hardware, in which the parts of a house are analyzed under six main divisions. Material lists, short cut rules and tables supplement the text and guard against anything being overlooked in making up the final estimate. Valuable information is given for making labor time estimates.



While designed as a beginner's text the Third Edition is complete enough for the use of builders and lumber dealers. Simple arithmetical methods for accurate estimating, are given. Helpful tables that save much time in figuring and a full index make the book suitable for quick reference in the shop or on the job.

Contents

Estimating Fundamentals. Foundation Material. Framing. Exterior Finish. Interior Finish. Hardware. Building Information. Estimating Short Cuts. Labor Hours per Unit of Work. Carpentry mensuration, Mathematical Reference Tables. A Guide to Home Planning. Index. 1947. 3rd. 288 pages, 123 illustrations, 60 tables, 5x7, \$3.00.

Book Department

**AMERICAN BUILDER
and BUILDING AGE**

30 Church Street New York 7, N. Y.

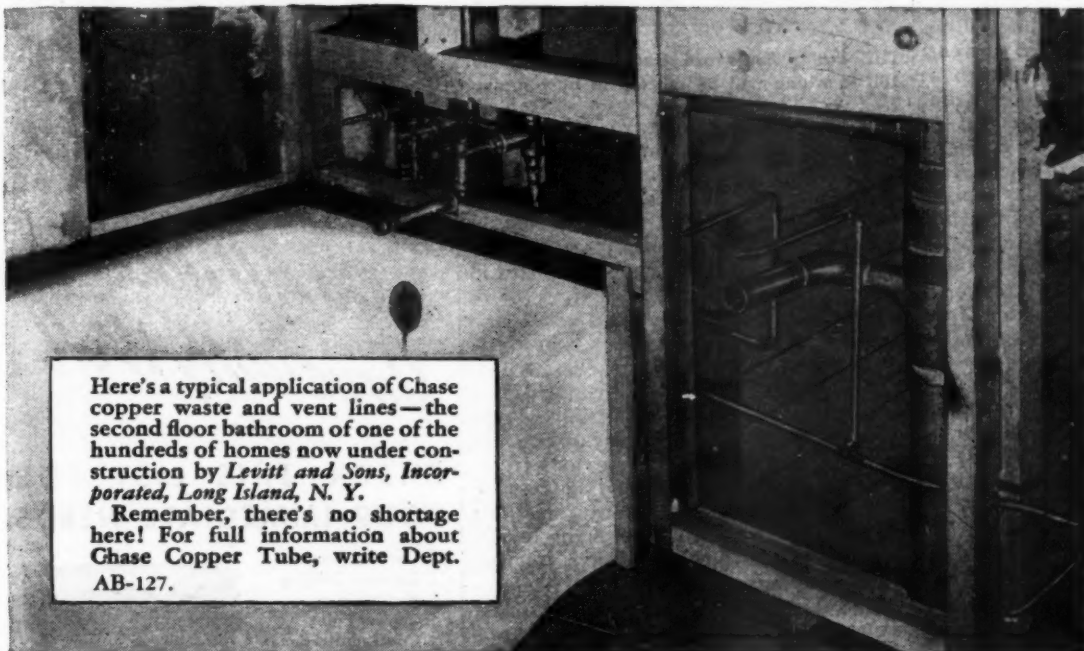
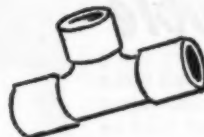


Have you heard?

—hundreds of low-cost homes are being rushed to completion with

CHASE COPPER TUBE
FOR WASTE AND VENT LINES

Readily available!



Here's a typical application of Chase copper waste and vent lines—the second floor bathroom of one of the hundreds of homes now under construction by *Levitt and Sons, Incorporated*, Long Island, N. Y.

Remember, there's no shortage here! For full information about Chase Copper Tube, write Dept. AB-127.

Chase



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SUBSIDIARY OF KENNECOTT COPPER CORPORATION

THIS IS THE CHASE NETWORK... handiest way to buy brass

ALBANY ATLANTA BALTIMORE BOSTON CHICAGO CINCINNATI CLEVELAND DETROIT HOUSTON INDIANAPOLIS KANSAS CITY, MO. LOS ANGELES MILWAUKEE MINNEAPOLIS
NEWARK NEW ORLEANS NEW YORK PHILADELPHIA PITTSBURGH PROVIDENCE ROCHESTER SAN FRANCISCO SEATTLE ST. LOUIS WASHINGTON

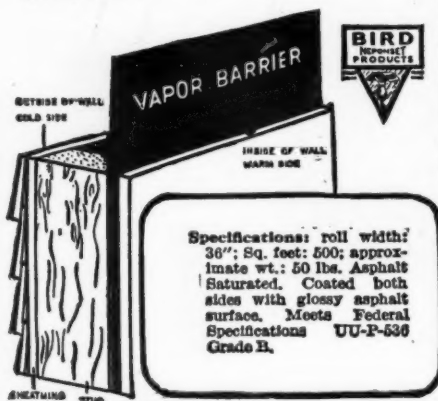
**VAPOR
CONDENSATION
ON WINDOWS
May Help Cupid . . .**



but

"In-wall" Condensation Invites Trouble

"Steam" on the window may be a boon to puppy love, but when the same vapor condenses within walls it can lead to serious trouble. Unchecked condensation may rob insulation of its efficiency, hasten structure rot, cause paint peeling and wall stains. A sure way to prevent "in-wall" moisture damage is with a separate vapor barrier. Architects the country over specify the standard—Bird Neponset Black Vapor Barrier. Applied on the warm side of insulation, Bird Neponset Black repels vapor, keeps insulation at peak efficiency, stops other condensation evils. Costs only about \$20 to protect a \$10,000 building. Consult Sweet's Architectural file, 9b-2. For sample, write Bird & Son, inc., 174 Wash. St., East Walpole, Mass.



BIRD NEPONSET BLACK VAPOR BARRIER

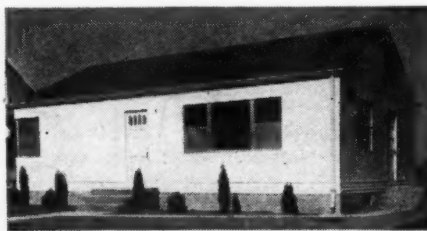
BIRD & SON, inc., E. WALPOLE, MASS.
CHICAGO NEW YORK SHREVEPORT

Aluminum Homes Erected For Employee Housing

AMERICAN industry has found that the big problem of housing employees during the war remains as important in the era of peace. This is particularly true when a company builds a plant in a new area. Several industries have taken the lead and initiated substantial housing projects near their factories.

One of the recent large employee housing programs is that of Valley Development, Inc., which negotiated a contract with the Byrne Organization, Inc., of Washington, D. C., for the Aluminum Co. of America. More than 100 aluminum houses of the type known as the Butler Boulevard Home, fabricated by the Butler Manufacturing Co., Kansas City, Mo., will be erected for sale to employees of Alcoa at its new plant at Bettendorf, Iowa, near Davenport. The aluminum company, scheduled to produce aluminum sheet and plate, will employ approximately 2,000 persons.

The Butler two-bedroom home has been erected in many parts of the country, in twenty different states. Recently the company introduced a three-



THE Butler Boulevard three-bedroom home, 100 of which will be erected in new project

bedroom house. This size only will be constructed at Bettendorf. Radiant heat units are to be installed in houses erected on a concrete slab, and a conventional heating system will be used in houses erected over a basement.

The three-bedroom house is 24x38 feet. Besides having five feet more width than the two-bedroom house, the other principal difference is a more spacious living and dining area, 12x24 feet.

The Butler homes have a conventional floor plan. Special features are large closets with sliding doors, aluminum picture and corner windows, various treatment of the walls, depending on the desire of the owner, and many variations of the exterior appearance of the house. The Iowa homes will all have interior walls of aluminum panels.

The Butler Manufacturing Co. has been making the factory-built Boulevard Home for more than a year. The aluminum panels lock together easily with a special patented key, permitting quick erection. The design of the panels permits marked variability in appearance.

The Byrne Organization, in charge of erecting the houses in the Iowa project, has completed more than \$75,000,000 worth of housing and is currently completing some of the largest housing developments in the nation. The combination of the two firms, Butler and Byrne, may set a pattern for future large-scale industrial housing developments.

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PRODUCTS**

*Offer Unusual
PROFITS
because*

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PRODUCTS**

*Do Many
Unusual Jobs
and*

**spray-O-bond
PRODUCTS**

*Do All Jobs
Unusually Well*

CHECK THIS LIST FOR YOUR IMMEDIATE NEEDS

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- ☐ Chemico Coating
- ☐ Hydro Check
- ☐ Cement Paint
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- ☐ Transeal
- ☐ Plaster Bond
- ☐ Foundation Coating
- ☐ Pointing and Patching Mortar
- ☐ Plastic Paint
- ☐ Asphalt Emulsion
- ☐ Aluminum Paint



Ask your Dealer or write

SPRAY-O-BOND COMPANY
MILWAUKEE 12, WISCONSIN

WALLACE E. JOHNSON
Memphis, Tennessee

Mr. W. C. Coleman
The Coleman Co., Inc.
Wichita 1, Kansas

Dear Mr. Coleman:

We believe you should know about one "by-product" of Coleman Floor Furnaces, which we have encountered. We were originally interested in this type of heating because it allowed us to feature automatic heating for small homes, at a reasonable price. However, we are constantly impressed with the acceptance a Coleman furnace has with the public.

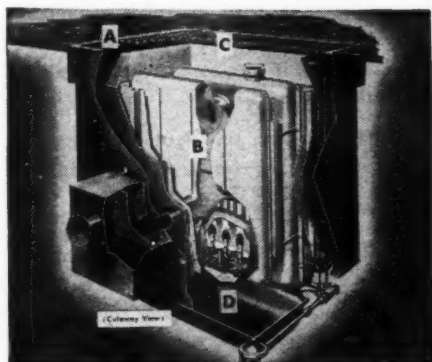
Though they are money-savers, we find many home-buyers look on them as evidence of "quality construction" in the finished house. In these times, when home building costs seem well above what prospects want to pay, public acceptance like this is a real asset to the seller, since the customer is better satisfied with the value he gets for his price.

Sincerely,

Wallace E. Johnson



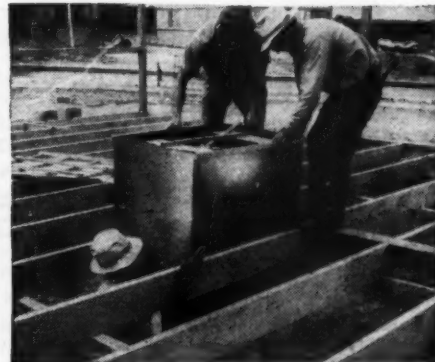
Turned To Coleman Floor Furnace To Cut Building Costs — Found It Really Helped Sell Houses, Too!



How It Works! Cutaway view shows how Coleman Floor Furnace produces the modern automatic, warm-floor heat that helps sell homes! Note how floor-level air is drawn through cool-air-chamber (A); how air is heated in warm-air chamber (B); how 78% open register (C) lets warm air flow into house fast. Patented streamlined bottom (D) speeds up warm air flow 35%.



"Clean, Automatic Heat"—3 Golden selling words for you! "No fuel-carrying nor fire-building; no ashes or fuel-dirt; less dirt in furniture, clothing, curtains and drapes"—this is powerful selling ammunition, to convince women they want *your* houses. Coleman Floor Furnaces, gas or oil or LP Gas models, help you make good this promise of a cleaner, easier-to-keep house.



Easy, economical installation. This photo shows a Coleman Floor Furnace in place—in the floor, not on it and not in the basement. No basement is needed, so often you can save the cost of excavation; and you save much costly duct work. Easy to connect with chimney and fuel line. Models from 25,000 to 70,000 BTU input or equivalent; single or multiple installations.

Mail Coupon Below, Today!—for newest illustrated catalog and specification book of Coleman Floor Furnaces—gas, oil and LP Gas models. A money-making piece for your file! The Coleman Co., Inc., Room AB-660; Wichita 1, Ks.; Philadelphia 8, Pa. (Terminal Commerce Bldg.); Los Angeles 54, Calif.

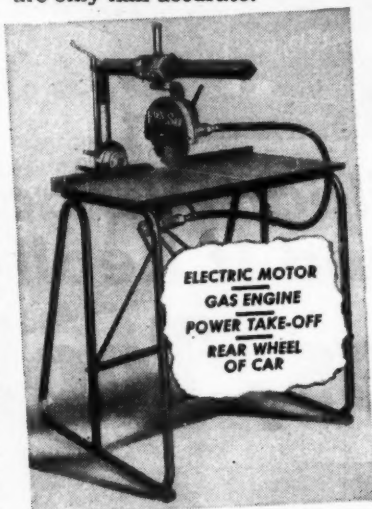
AUTOMATIC HEATING

Coleman

The Coleman Company, Inc.,
Builders' Contract Div.; Room AB-660,
Wichita 1, Kansas
Without obligation to me, mail at once my copy of newest
Builders' catalog of Coleman Floor Furnaces.
Name.....
Company.....
Address.....
Town..... State.....



The beaver does a good job, but he does it the hard way. Don't wear yourself out on the end of a hand-saw, or struggle with heavy, cumbersome mechanical saws that waste your time and are only half accurate.

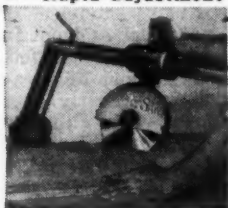


FLEXSAW MAKES ANY CUT

Use it for Production Work, Construction out on the Job, or in Job Shop or Hobby Shop

A rigid, rugged, accurate, portable saw that makes cuts 3" deep and up to 15" wide. Knocks down into two 55 lb. units for transport in any car. A truly ONE MAN portable saw. Ideal for farm use, builders, hobbyists.

Rapid adjustment for any cut—no wrenches required. Rigid in all positions. Large, easily read dials for setting all cuts, eliminate all guesswork. Lifetime Fasfir ball bearings. Highest quality, flexible drive shaft. Balanced tubular base.



priced so anyone can own it **\$125**

SEE YOUR LOCAL DEALER, OR WRITE DIRECT TO:

Less Motor-
F.O.B.
Factory
GUARANTEED

THE FLEXSAW CO.
PORT AUSTIN, MICHIGAN

Ben S. Wright Named General Sales Manager

EFFECTIVE October 1, Ben S. Wright became general sales manager of Owens-Corning Fibreglas Corporation, and John H. Thomas succeeded George E. Gregory as vice-president



BEN S. WRIGHT

and purchasing director. Mr. Thomas has been vice-president in charge of sales since 1946. Mr. Gregory resigned to become president of the Morton-Gregory Company, Inc., a new organization formed to manufacture and sell new industrial and consumer products calling for a large scale use of the Fibreglas yarns.



REZ

makes

fine wood finishing

easier...

quicker...

more economical

This ready-to-use amber-clear sealer and primer protects floors, doors, sash, millwork, and plywood. It is a synthetic resin, especially formulated to penetrate the wood fibers—leaves a tough resinous deposit, thereby minimizing moisture absorption, grain raise and decay. Also, it acts to assure dimensional stability.

Rez* provides an ideal base for any type of finish—paint, stain, varnish.

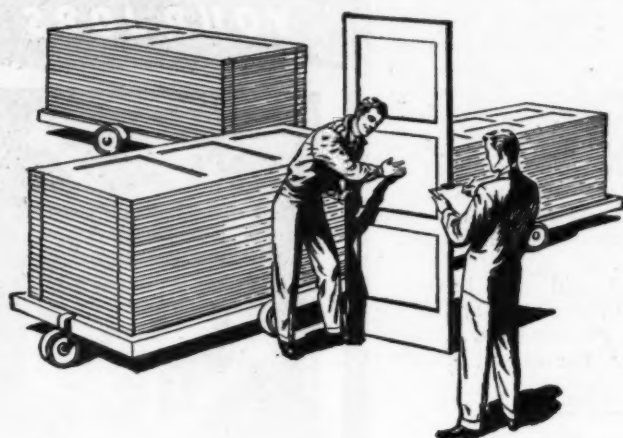
See Your Dealer or Jobber

If Rez is new to you, or if you want current supply information on this easy-to-apply, quick-drying sealer and primer, see your dealer or jobber today. MONSANTO CHEMICAL COMPANY, Western Division, Seattle, Wash. . . . District Sales Offices: Los Angeles, San Francisco, Portsmouth, Va.

*Reg. U. S. Pat. Off.



SERVING INDUSTRY... WHICH SERVES MANKIND



Fir Door Institute INSPECTION SERVICE

assures the quality and uniformity
of officially grade-marked

DOUGLAS FIR DOORS

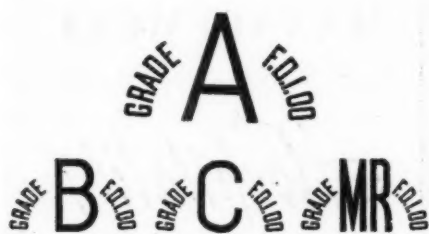
EVERY Douglas fir door stamped with an official F.D.I. grade-mark comes under the new Fir Door Institute inspection service—to assure the highest possible product quality and uniformity.

Inspection covers workmanship, appearance, grade—and new dimension specifications adopted for stock interior doors. Stock doors are now pre-fit to $\frac{1}{8}$ -inch less than previous net catalog height, and $\frac{3}{16}$ -inch less than catalog width, permitting installation without sawing, trimming

or planing. On-the-job costs are reduced. A cleaner, more attractive product is assured.

Stock doors are also resin pre-sealed, which prepares them for better finish, protects against moisture, and improves dimensional stability. On order, Douglas fir doors are available Factri-fit—completely machined for locks and hinges.

All these features are covered by official inspection—assuring doors which meet every quality standard adopted by member factories of the Fir Door Institute.



One of these distinctive F.D.I. "grade trade-marks" appears on the bottom of every officially inspected Douglas fir door—and only on doors so inspected. Look for the F.D.I. seal. It is your symbol of fine craftsmanship, now backed by rigid manufacturing inspection.



FIR DOOR INSTITUTE

TACOMA BUILDING

TACOMA 2, WASHINGTON

THE NATIONAL ASSOCIATION OF

DOUGLAS FIR DOOR MANUFACTURERS

ACME TWIN SASH BALANCE



FOR DOUBLE-HUNG
WOODEN WINDOWS

**Easier, Faster and
More Economical to
Install than any other
type sash balance.**

See your hardware or building
supply dealer or write direct
for literature.

ACME

SASH BALANCE COMPANY
1626 Long Beach Ave.
Los Angeles 21, Calif.

Plywood Firms Purchase West Coast Timber Tracts

THE United States Plywood Corporation and Harbor Plywood Corporation have acquired, through purchase and cutting rights, more than a billion feet of timber located in Shasta County, Calif. The tract is part of the remaining portion of the vast timber holdings of the Walker family of Minneapolis. The timber is largely Ponderosa and Sugar Pine of high quality, with a large percentage of Douglas fir.

A new plywood mill will be constructed adjacent to the tract and it is expected that U. S. Plywood and Harbor Plywood will take the output of the new plant jointly.

Meade Johnson General Sales Manager

J. BRYAN WILLIAMS, who recently assumed duties as general manager of the Stamford Division of the Yale & Towne Manufacturing Co., has announced three promotions to top production and sales executive posts on his staff of assistants.

Meade Johnson, who has been with Yale & Towne for 20 years, was promoted from marketing manager to general sales manager. New assistant general manager is A. Douglas Dalton, 33 years with the firm, and Harold E. Nagle has been named general superintendent. He has been with Yale & Towne for 28 years.



Stainless Steel Sinkbowls

Legion sinkbowls are seamless drawn from one piece of solid or single clad stainless steel...No welds, rough edges, ridges or grooves to cause leaks, corrosion or cracks where dirt may lodge...Light in weight, yet rigid and long-wearing...Oblong, square, round or oval shapes.

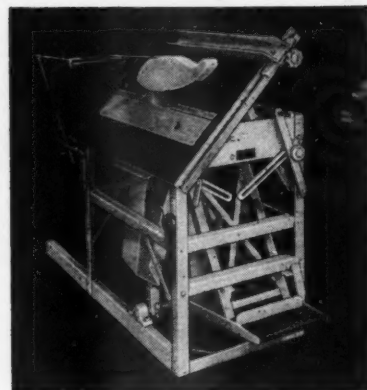
Write for catalog sheet.



**LEGION
STAINLESS SINK CORP.**

21-13 40th Avenue, Long Island City 1, N. Y.

SPEED YOUR JOBS



BUY BEARCAT!

You'll finish jobs faster with a Bearcat! Speedy foot-pedal swing cut-off... Rip, cut-off at all angles... Portable from job-to-job... Rugged welded steel frame and top... Heavy-duty ball bearings. Two sizes: XJR for home builders, X C O for heaviest jobs. QUICK DELIVERY.

DEALERS
SOME AREAS
STILL OPEN

Write TODAY For Literature
THE PAXSON CO.
117 "A" Ave., Dowagiac, Michigan

BUILDING BEARCATS FOR 25 YEARS



OWNER MANAGEMENT

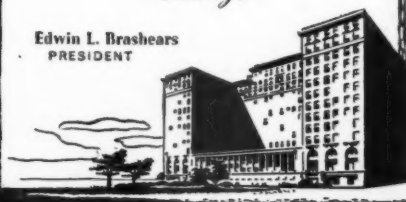
Guarantees the true spirit of

Hospitality

... it always prevails in every
perfect detail of the service and
atmosphere you'll enjoy at

The
DRAKE
Chicago

Edwin L. Brashears
PRESIDENT



Protect your customers with **FIREPROOF Gold Bond Rock Wool Batts**



Fireproof as the rock it's made from.
Gold Bond Rock Wool can't burn!

WHEN specifications call for insulation, you can be sure your customers expect *fireproof* insulation. You have a definite responsibility and a real obligation to make sure they get fireproof insulation. Gold Bond Rock Wool Batts are *permanently* fireproof. Used in walls and in the roof, an effective fire-stop is provided for the life of the building. Play it safe! Give your customers the best, full-thick fireproof insulation in the world—Gold Bond Rock Wool Batts!

NATIONAL GYPSUM COMPANY
BUFFALO 2, NEW YORK

• • •

Over 150 Gold Bond Products including gypsum lath, plaster, lime, wallboards, gypsum sheathing, rock wool insulation, metal lath products and partition systems, wall paint and acoustical materials.

You'll build or
remodel better with

Gold Bond



Ideal STORM SASH ADJUSTER

**Open Storm Windows
with One Hand
to Any Desired Degree**

Holds sash firmly in strong winds, either open or closed . . . locks securely . . . remains silent for its lifetime. Strong angle formed arms are of zinc plated steel, bakelite washers. Includes right and left arm pull and screws. Approximate retail 60c per set.

Display Models for Dealers
Ask your Jobber

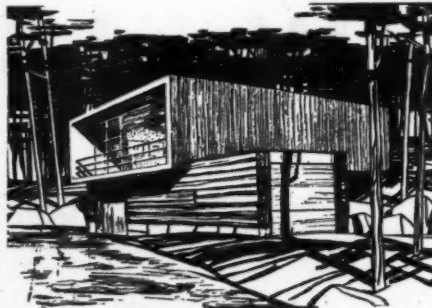
Ideal
BRASS WORKS, INC.

250 EAST FIFTH STREET
ST. PAUL 1, MINNESOTA

New Booklet Offers Plans For Boathouses and Docks

EMPHASIZING ease of construction and the availability of good materials for docks and boathouses at local lumberyards, the Outing Boat Club of America has published a book containing 21 differently-styled plans adaptable to water conditions in all parts of the United States.

Plans are based on findings of a national survey of marine dealers and contractors and represent the most use-



A design from book, "The Heron"

ful sizes and arrangements consistent with economy and the building facilities of local lumberyards.

Copies of the booklet may be obtained free from any of 4,000 outboard motor dealers in the U. S. or for 35c from the Outing Boat Club of America, 307 N. Michigan Ave., Chicago 1, Ill.

This ADDING MACHINE Adds and Subtracts FEET and INCHES!



and
only
\$12.95

**No other
ADDING MACHINE matches all
of Addometer's advantages**

Handiest helper on construction jobs you ever saw! Adds, subtracts FEET AND INCHES and $\frac{1}{4}$ fractions quickly, accurately—right on the job. Only $11\frac{1}{2} \times 2\frac{1}{2}$ in. size, weighs 14 oz.; 8-column capacity; single stroke dial clearance. Also adds dollars and cents up to \$10,000.00.

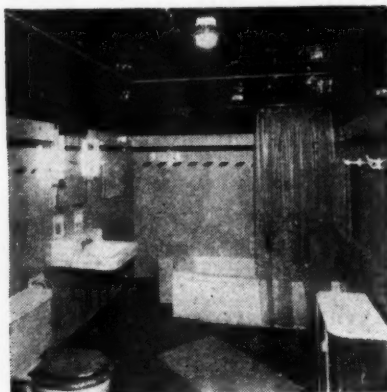
"Can't Do Without It," Users Say
Contractors, architects, engineers, highly praise Addometer's advantages—thousands in daily use.



Money-Back Guarantee

The Addometer is yours for only \$12.95, postage prepaid — 10-day money-back guarantee if not fully satisfied. Descriptive folder on request—or, send check or money order NOW.

Reliable Typewriter & Adding Machine Co.
Dept. M-12, 303 W. Monroe St., Chicago 6, Ill.



For the alert, progressive distributor, dealer or manufacturers' agent, the STEEL WALL TILE COMPANY has an interesting proposition which will yield a continuing flow of profit for years to come.



Available Now

STEEL WALL TILE ALUMINUM WALL TILE

STEEL Wall Tile and Aluminum Wall Tile provides a waterproof, spotless surface for kitchens, bathrooms, breakfast nooks, recreation rooms, stores, hospitals, industrial buildings, gas stations, garages, restaurants, bakeries, dairies, and taverns. Walls sparkle with this tough, high gloss, baked on enamel finish that will not chip, crack, craze or buckle.

Easily applied, the tile is laid piece by piece and can be installed over new surfaces or old. Each tile is imbedded in a mastic cement to provide a completely waterproof finish. Simple to install over old plaster, new plaster, wall board, sheetrock, plywood or any smooth surfaced wall material. Few tools needed. A folding rule, a level, a notched trowel and a pair of tin snips are sufficient.

Low in cost, Steel or Aluminum Wall Tile is only about one-third that of ceramic or vitreous tiles.

Steel Wall Tile—Aluminum Wall Tile will last.

Available in various sizes and in 13 different standard colors.

SEND FOR DETAILS TODAY!

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Factory and Main Offices
1706 W. North Ave., Chicago, Ill.

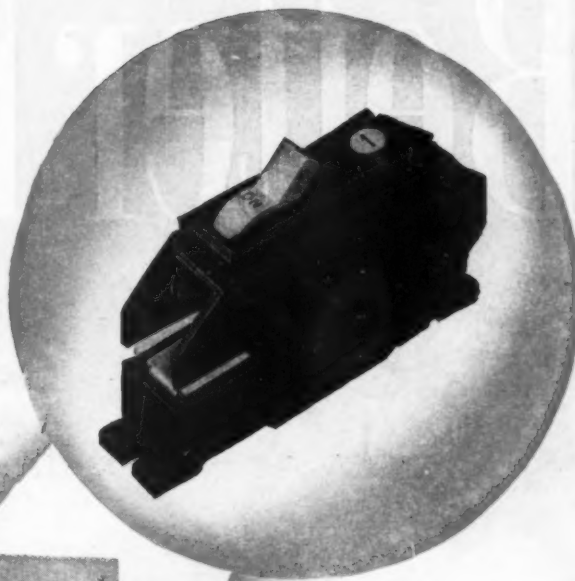
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24 HOUR GUARDIAN

against
SERVICE INTERRUPTIONS



TYPE AC and THERMAG
Automatic
CIRCUIT BREAKERS



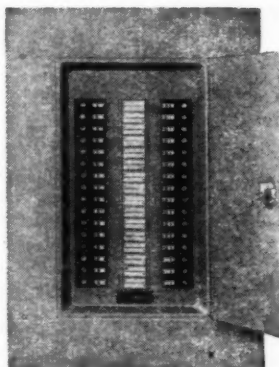
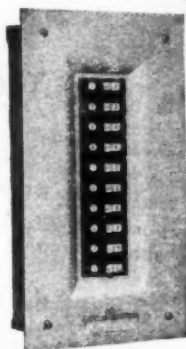
SERVICE EQUIPMENT

6 circuits or less;
main lugs or main
circuit breakers.
For home instal-
lation.



LOAD CENTERS

16 single pole cir-
cuits or less; or
combination of
single and double
pole circuits to-
talling 16 poles
maximum.
For larger homes
and commercial
installation.



STANDARDIZED PANELBOARDS

4 to 42 circuits; 3 or 4
wire mains; lugs only;
main fuse disconnect, or
main circuit breaker.
For schools, commercial
buildings, industrial
plants, hotels, etc.

There is a real feeling of security when you install **FA** Type AC circuit breaker load centers and service equipment, and Thermag Type automatic circuit breaker panelboards.

Twenty-four hours a day, these smooth functioning units guard against the ravages of short circuits and dangerous overloads with their costly and irritating service interruptions and the likelihood of burned-out equipment.

Then too, these units are shock-proof and simple to operate, requiring only the flip of the handle to restore service after the cause of the trouble has been removed.

For maximum protection against service interruptions, install **FA** Type AC circuit breaker load centers and service equipment, and Thermag Type automatic circuit breaker panelboards.

NOTHING TO REPLACE • NO DANGER OF SHOCK
... Simply Flip Handle to "ON" Position (after removing cause of trouble)

MAKERS OF...
BUSDUCT
PANELBOARDS
SWITCHBOARDS

Frank Adam
ELECTRIC COMPANY
ST. LOUIS, MISSOURI

SERVICE EQUIPMENT
SAFETY SWITCHES
LOAD CENTERS
ELECTRIC QUIKHETER

Better Homes

READ BY MORE THAN 3,000,000 FAMILIES
DECEMBER 1947 • 25¢

and Gardens



What does Better Homes & Gardens do for All These Advertisers?

BH&G gives them supporting editorial material that's 100% service — no fiction, no sidelines. When a family meets an ad for your merchandise in BH&G, they're already interested in the story — because in BH&G, ads and editorial march down the same side of the street.

(That's why our 100% service to readers is 100% service to advertisers, too.) In December, *A Ranch House From The Ranch Country* (authentic ranch!), *A Portfolio of Fireplaces* and *Partitions Out, Daylight In* (remodeling) show how BH&G is working for the best in home planning.

These brands are advertised in the DECEMBER issue of Better Homes & Gardens:

CONSTRUCTION MATERIALS

Acme Venetian Blinds
Alcoa Windows
Bell Telephone
Dunbrik & Dunstone
Fenestra Steel Casements
GE Lamps
Kreger Cement Molds
Levelor Drapery Hardware
Lowell Paint Spray
Moe-Bridges Fluorescent Fixtures
Moe Bros. Lighting Fixtures
NuTone Chimes
Onan Power Plants
Pittsburgh Built-in Mirrors
Pyrene Fire Extinguisher
Rittenhouse Chimes
Sapolin Paint
Stanley Hardware
U. S. Steel

CONSTRUCTION MATERIALS (Cont'd)

Vinylite Plastics
Western Pine

FLOOR COVERINGS

Armstrong Linoleum
Nairn Linoleum
Tile-Tex Asphalt Tile

HEATING & PLUMBING

American Radiator & Standard Sanitary
Bennett-Ireland Fireplace Screen
Briggs Co. Plumbing Fixtures
Burnham Boilers
Crane Heating
Culligan Zeolite Soft Water Service
Delco Heat
Heatilator Fireplace
Heil Heating
Inst. Boiler & Rad. Mfgs.

HEATING & PLUMBING (Cont'd)

Mertland Hot Water Heater
Petro Heat
Research Air Filters
Roto-Rooter Sewer Cleaner
Sherman Bath Fixtures
Stover Soft Water
Superior Fireplace
Trane Heating
Williams Oil-O-Matic
Youngstown Kitchens by Mullins

INSULATION

Philip Carey
Fiberglas
Mortite Weather Stripping
Nu-Way Weather Stripping
Presstite Caulking

MAJOR APPLIANCES

Bendix Washer
CP Gas Range

MAJOR APPLIANCES (Cont'd)

Deepfreeze
Dexter Washer
Filter Queen Vacuum
GE Disposal
GE Home Freezer
GE Range
Harderfreez
Horton Ironer
Hotpoint Refrigerator
Hotpoint Home Freezer
International Harvester Home Freezer
Maytag Washer
Maytag Ironer
Maytag Range
Maytag Home Freezer
Monarch Range
Philco Refrigerator
Servel Refrigerator
Voss Washer

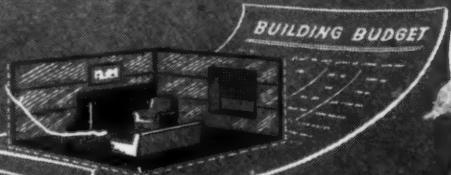
CIRCULATION OVER 3,000,000

America's First Service Magazine

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MANY OF YOUR CUSTOMERS CAN ANSWER THESE QUESTIONS...CAN YOU?

IS WELDWOOD EXPENSIVE?



No. We'll readily admit a Weldwood-paneled room looks like a million. But when maintenance expense over the years is considered, a room paneled in Weldwood compares favorably in cost with ordinary plaster, paint and paper...both for new construction and remodeling.

Fact is, you can do a 12 x 18 room in Birch Weldwood for less than \$300**... materials and installation. Stop and think how little that adds to monthly FHA payments, with a home improvement loan.

Many of your customers know this!

IS WELDWOOD VERSATILE?

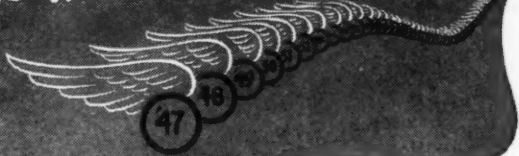


Yes, indeed. Choose your style, then choose Weldwood for the interior. There's a wood for every mood. You'll find exactly what's needed for traditional effects; also beautiful woods for sleek, modern twentieth-century surroundings. Use Weldwood in several rooms, or just one. Do all four walls, even one wall, or simply the dado.

And you can work many clever, "built-in" miracles with Weldwood, for it provides structural strength as well as decorative beauty.

Many of your customers know this!

IS WELDWOOD DURABLE?



It is. Weldwood Plywood Panels are guaranteed for the life of the building in which they're installed.

And they'll remain luxuriously beautiful with a minimum of maintenance. No recurrent expense for papering and painting.

Durability like this makes Weldwood a good investment. Either in a new home or for remodeling, it adds a permanent value.

Many of your customers know this!

IS WELDWOOD AVAILABLE?



Yes, right now. Most grades and varieties of Weldwood... especially the decorative hardwoods... can be obtained immediately in the most popular sizes and thicknesses.

Fine domestic woods such as birch, oak, walnut, knotty pine and vertical grain cedar. Rich imported woods like de oro, mahogany, primavera. There's a wood to fit every taste and every pocketbook in the Weldwood line.

Many of your customers know this, too!

Why do your customers know these things? Because, in recent years, we've maintained a steady advertising program to tell them. We've hammered home the advantages of Weldwood in ad after ad.

Beauty. Durability. Versatility. Ease of installation. And Economy.

Has our effort had any effect? Well, a recent independent

survey indicates that 1 out of every 3 home-minded Americans wants wood-paneling in at least one room.

And Weldwood gives it to them at a price they can afford to pay.

Take advantage of this acceptance. You'll find a warm reception for plans that include Weldwood Walls. We'll be glad to send complete data.

**Prices may vary slightly in different sections of the country, due to local conditions.

Weldwood* Hardwood Plywood
Douglas Fir Weldwood
Mengel Flush Doors
Douglas Fir Doors
Overhead Garage Doors
Molded Plywood
Armormat* (metal-faced plywood)
Tekwood* (paper-faced plywood)
Flexmet
Weldwood Glue* and other adhesives
Weldtex* (striated plywood)
Decorative Micarta*
Flexwood*
Flexglass*
Fitzite*

*Reg. U.S. Pat. Off.

WELDWOOD Plywood

Weldwood Plywood and Mengel Flush Doors are products of

UNITED STATES PLYWOOD CORPORATION
New York 18, N.Y.

THE MENGEL COMPANY
Louisville 1, Ky.

Distributing units in Baltimore, Boston, Brooklyn, Chicago, Cincinnati, Cleveland, Detroit, Fresno, High Point, Los Angeles, Milwaukee, Newark, New York, Oakland, Philadelphia, Pittsburgh, Rochester, San Francisco, Seattle. Also U.S.-Mengel Plywoods, Inc., distributing units in Atlanta, Dallas, Jacksonville, Louisville, New Orleans, Houston, St. Louis. In Canada: United States Plywood of Canada, Limited, Toronto. Send inquiries to nearest point.



Weldwood Plywood is made in both Interior and Exterior types, the former bonded with extended urea resins and other approved bonding agents; the latter with phenol formaldehyde synthetic resin.



NO OTHER available type insulation has the efficiency of Certified* Insul-Cotton when it comes to making the interior of a building invulnerable to weather. It keeps the weather where it belongs—outside. With a "K" value of only 0.24, Insul-Cotton is the most efficient type insulation available today ... PLUS these superior qualities:

*Certified

—Every lot manufactured under Federal supervision and is tested for weight, density, thickness and flame-proof qualities. Insul-Cotton will permanently retain its flame-proof qualities . . . you are certain to get what you buy.

- Lightest type insulation made—easy to handle and install
- Flame-proof and fire-retarding—will not sustain combustion
- Moisture and vermin resistant—clean, free of foreign matter
- Stays where you put it—will not sag or settle
- Contains no irritants to harm eyes, hands or lungs of workmen
- Finest type sound deadening material
- Exceeds government specifications for FHA, FHFA, and HH-1-528 specifications

Investigate the practical "workability" of Certified Insul-Cotton—and you'll know you've found the ideal way to make any home more livable!

INSUL-COTTON DIVISION

TAYLOR BEDDING MFG. CO. TAYLOR, TEXAS

The Originators of Flame-Proof, Fire-Retarding Cotton Insulation

DEALERS . . . DISTRIBUTORS — Some territories still open for competitively priced Insul-Cotton.

Write for details.

TAYLOR MADE
INSUL-COTTON

MAIL THIS COUPON

INSUL-COTTON DIVISION
Taylor Bedding Mfg. Co., Taylor, Texas

Gentlemen:

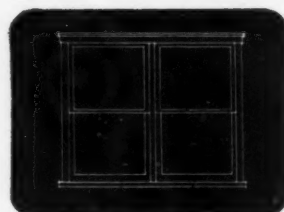
Please send specifications and full information on INSUL-COTTON.

Name _____

Address _____

City and State _____

Check Here: ☐ Distributorship ☐ Architect ☐ Contractor

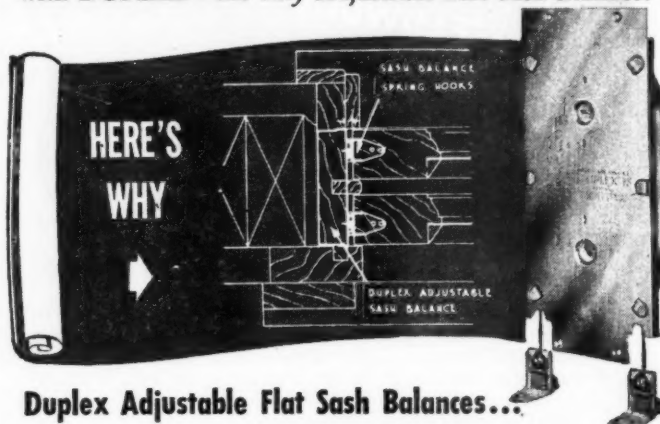


NARROW MULLIONS AND TRIM

Both Inexpensively
Attained With

DUPLEX FLAT SASH BALANCE

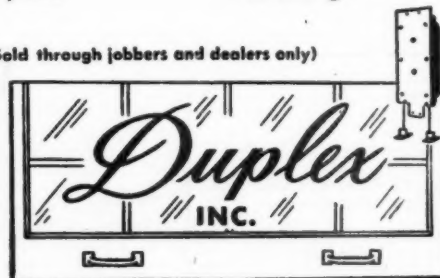
Narrow mullions and narrow trim—the modern styling that helps sell homes—are economically achieved with DUPLEX—the *only* Adjustable Flat Sash Balance.



Duplex Adjustable Flat Sash Balances...

1. . . . require no special framing for overhead balance space
2. . . . require no stud mortises at sides.
3. . . . are installed in virtually the pulley stile thickness about halfway between sill and head jamb.
4. . . . entirely eliminate cords, weights and weight boxes.
5. . . . and just *two sizes* meet 98% of all residential building needs, which simplifies ordering, stocking and installing.

(Sold through jobbers and dealers only)



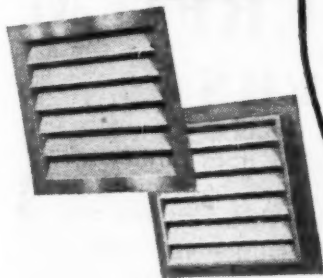
628 North LaPeer Drive
Los Angeles 46, California

Leigh BUILDING PRODUCTS

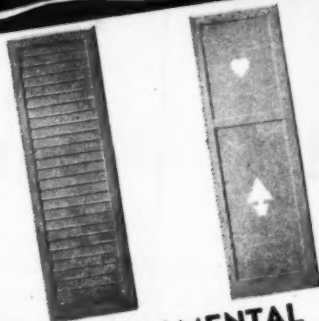
A complete line of all metal building products smartly styled and mass produced to give you the highest quality at very low cost.

*For more livable, more salable homes
... use Leigh Building Products.*

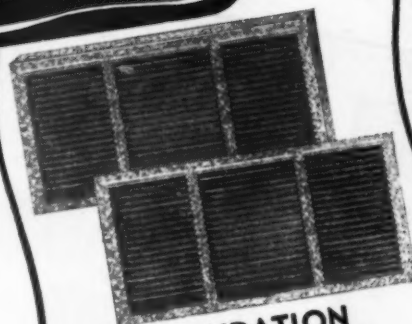
Styled and Built by
AIR CONTROL PRODUCTS, INC.
Coopersville Michigan



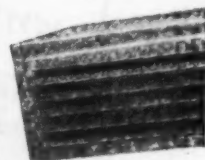
ATTIC VENTILATORS



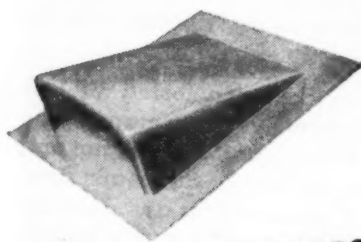
ORNAMENTAL
STEEL SHUTTERS



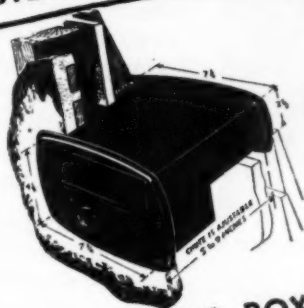
FOUNDATION
VENTILATORS



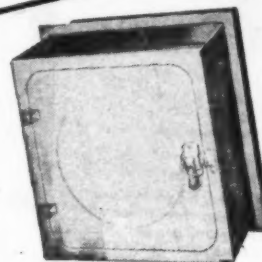
BRICK
VENTILAT



ROOF VENTILATORS



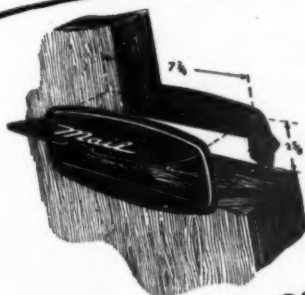
BUILT-IN MAIL BOXES
WALL TYPE



MILK & PACKAGE
RECEIVERS



CLOTHES CHUTE
DOORS



BUILT-IN MAIL BOXES
DOOR TYPE



DUST CHUTES



Above—same bedroom with single hinged closet door and with parallel sliding doors. Direct access to either half of closet is possible as each sliding door opens to opposite side of door frame.

Right—R-W No. 719 Sliding House Door Hanger and Wood Lined Track, showing application of hangers and track to doors and header. For doors $\frac{3}{8}$ " thick and up, not heavier than 100 lbs.

Getting clothing in and out of a closet can be a difficult trick when there's only one door. But it's no trick at all when you install parallel sliding doors covering the full width of the closet. Each door slides open to permit access to one half of the closet. There's no fuss, no muss, no bother...just slide open either door and half of the closet is open before you. Not necessary to enter closet at all.

And there's an important *plus* advantage to sliding doors—no floor space wasted by the swinging arc of hinged doors. Furniture, lighting fixtures, rugs and pictures can be conveniently and correctly placed without getting "behind a door."

Specify R-W Sliding Door Hangers and Wood Lined Track Sliding doors installed with quiet, smooth, trouble-free Richards-Wilcox No. 719 Sliding Door Hangers and Wood Lined Track can simplify home planning, provide more usable floor space and make living easier. Get all the facts...call your nearest R-W office. Free consultation available.



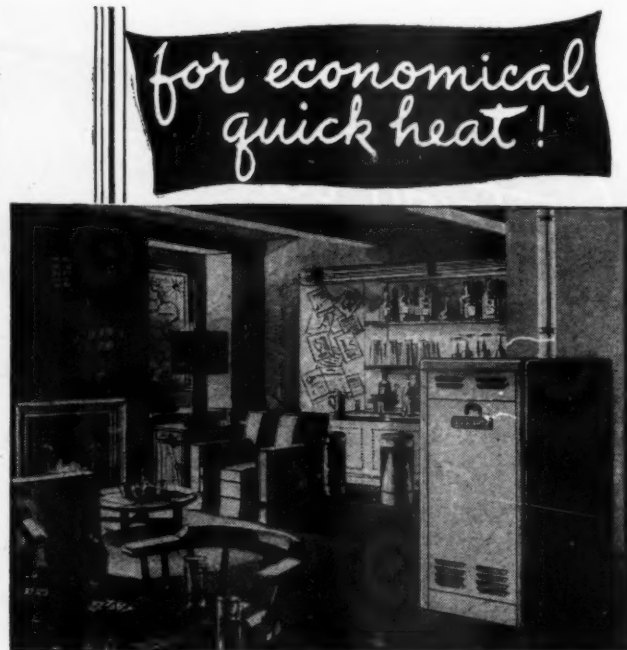
1880-1947
OVER
67 YEARS

Richards-Wilcox Mfg. Co.

A HANGER FOR ANY DOOR THAT SLIDES

AURORA, ILLINOIS, U.S.A.

Branches: New York, Chicago, Boston, Philadelphia, Cleveland, Cincinnati, Washington, D.C.,
Los Angeles, San Francisco, New Orleans, San Antonio, Dallas, Houston, Portland, Seattle, Tacoma, Vancouver, B.C.

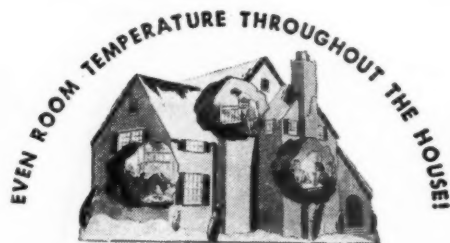


KOVEN WATERFILM BOILERS

The heating dollar goes further with a KOVEN WATERFILM BOILER...because WATERFILM'S fast-steaming, fuel-saving features can be relied upon for years of efficient performance.

Whether you recommend WATERFILM for small homes, apartment houses or industrial plants, the effectiveness of this outstanding boiler is assured. Its patented construction, incorporating all the latest scientific improvements that cannot be duplicated by any other boiler, provides even temperatures in every room and an abundant supply of domestic hot water at all times.

The modern, high-styled jackets enclosing WATERFILM Boilers make them attractive to the many homeowners who demand a heating unit that will not only serve well, but look well. Made for automatic firing with oil, stoker or gas. Write today for a free copy of the illustrated booklet which gives complete details.

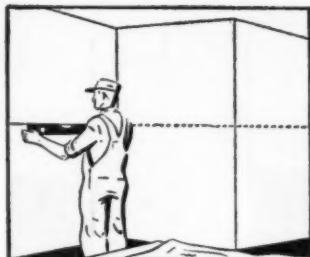


WATERFILM BOILERS, Inc.

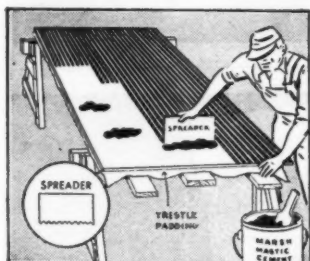
A DIVISION OF L. O. KOVEN & BRO., INC.

154 Ogden Avenue, Jersey City 7, N. J.
Plants: Jersey City, N. J. • Dover, N. J.

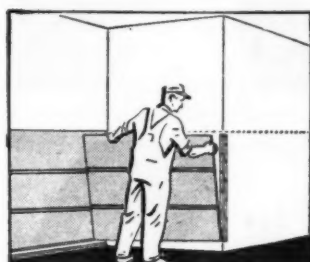
You'll **SAVE** Installation **TIME** and **MONEY**



1 For wainscot installation, draw level line at desired panel height. Cut panel to size with saw and plane.



2 Apply Marsh Mastic cement uniformly to the back of the panel.



3 Install Marsh "panel-tested" mouldings for a job of finished beauty. Place panel on the wall.

Write for complete installation instructions.



You can create colorful interiors of lasting beauty in less time and with less effort when you use Marlite plastic-finished wall and ceiling panels. Whether you're working on new construction or remodeling jobs, you'll get perfect results every time with Marlite. Sold by leading dealers everywhere, Marlite is suitable for all types of installations. Colors and patterns to meet any decorative

requirement. See the Marsh Catalog in Sweet's File, Architectural, or write direct for complete information. Marsh Wall Products, Inc., 1203 Main Street, Dover, Ohio.

.... For Creating Beautiful Interiors



**You Mean Beautiful
Doors Like That
Actually Cost Less?**

**Absolutely! And My
Builder Told Me They
Keep Their Beauty Years
Longer Because They're**

***Tru-sized* DOORS!**

Reg. U.S. Pat. Off.

When you use Tru-sized Doors and figure all the hours of time and work you save, it's easy to see why *you save money!*

Tru-sized Doors are perfectly sized and squared. There's NO sawing, NO planing, NO fitting, NO priming. Resin prime coating protects them from dirt and moisture.

Available machined for standard lock and hinges, you can hang a Tru-sized Door in almost no time—with just a screwdriver.

Be prepared to answer inquiries from your customers. Write today for FREE information. Dept. 9AB



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Plants and General Office: Tacoma 1, Washington

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1326 Empire State Building, New York 1, New York

Phone: Penn. 6-2954

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134 So. LaSalle Street, Chicago 3, Illinois

Phone: State 5335-6-7

SAN FRANCISCO OFFICE

3045 19th Street, San Francisco, California

Phone: Valencia 2241

LOS ANGELES OFFICE

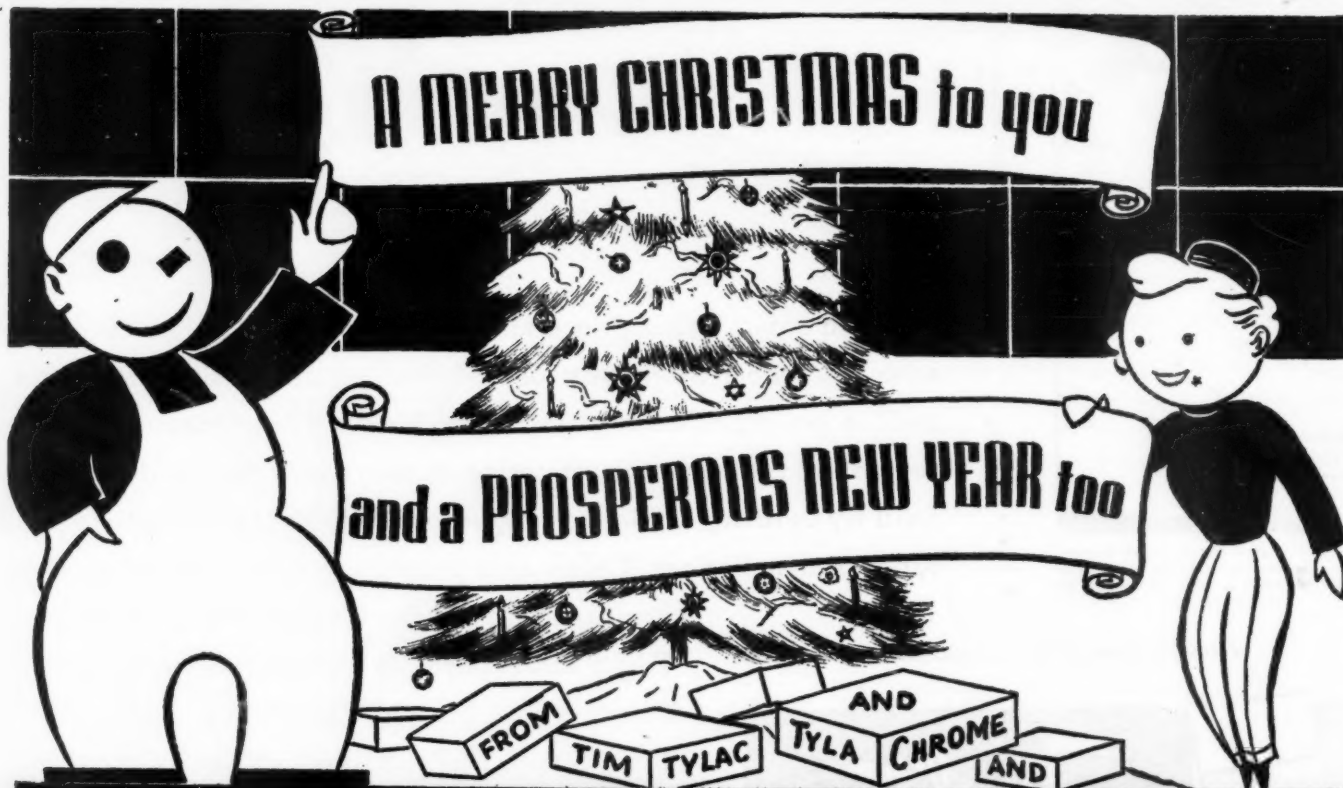
P. O. Box 7685 Del Valle Station, Los Angeles 15, California

Phone: Vandike 6326

TACOMA OFFICE

1216 St. Paul Avenue, Tacoma 1, Washington

Phone: Main 8101



TYLAC COMPANY

MONTICELLO, ILLINOIS

PIONEERS IN THE PREFABRICATED WALL PANEL INDUSTRY

General Electric equipment can make the difference



Attention! Builders: Contact your G-E distributor now to help you plan your G-E equipped 1948 projects.

HERE IS the argument that clinches the sale:

This is a General Electric fully equipped home. It costs you only \$3.50 a month more in a "packaged mortgage" than if I sold you a house without any electrical kitchen or laundry equipment in it!

And here are facts to remember for your 1948 projects:

Fact No. 1:

Experiences of progressive builders all over the country show that home buyers buy *faster* when they see a house that's *designed for better living, electrically*.

Fact No. 2:

From foundation to attic, *most people want G-E Appliances*. When asked which company makes the best electrical appliances, *53% of the women and 51% of the men in a recent survey answered—General Electric!*

That's why *complete G-E electric equipment*—included as a basic part of the home—is a leading sales advantage in postwar home buying. To complete the picture, here are:

Two more facts:

1. *Cost is on your side.* You buy for resale, so you don't spend a dime extra.

And homes with General Electric equipment cost the owner only about \$3.00 to \$3.50 a month more than the same homes without any equipment.

Savings from operation and maintenance of dependable G-E Appliances can more than offset this small increase of your customer's mortgage payments.

2. *Quality is on your side.* G-E all-electric homes add to your reputation as a good builder—mighty important as competition gets increasingly stiff.

Your distributor will show you *all* the advantages of General Electric Appliances—all the reasons why so many builders and architects are specifying, and benefiting from General Electric fully equipped homes.

General Electric Company, Appliance and Merchandise Dept., Home Bureau, Bridgeport 2, Connecticut.

THE APPLIANCES MOST WOMEN WANT MOST

GENERAL  ELECTRIC

We Can Afford Them!

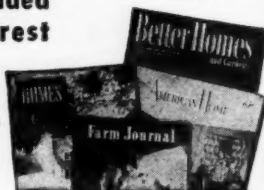


*Savings on
Installation*

**MORE than
pay the cost!**

**134,445,000 modern-minded
people share her interest**

Grand Rapids Invisible Sash
Balances are sold monthly to
the readers of these magazines
... the bulk of the home-
building market.



***She is interested in**



The practical SPIRAL sash balance

Of course she can afford them! They go in quick and easy ... just three screws per balance ... save hours of high-priced labor. Laboratory tests point to perfect lifetime performance ... proved in thousands of homes. No tapes, no cables, no exposed tubes, no corrosion. The one practical installation for modern narrow trim. A few standard sizes fit 95% of all residential requirements ... same size balance fits upper and lower sash.

For complete specifications and instructions

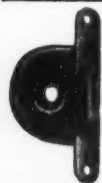


Write today for fully illustrated specification and installation data. See how Grand Rapids Invisibles fit into your next set of plans!

GRAND RAPIDS HARDWARE COMPANY

Grand Rapids, Michigan

Quality Leaders in Sash Hardware for 50 Years



Grand Rapids Sash Pulleys

No. 103 face plate, cone bearing type and Nos. 175, 109, 110 sawtooth drive type sash pulleys cover 95% of all sash pulley requirements.

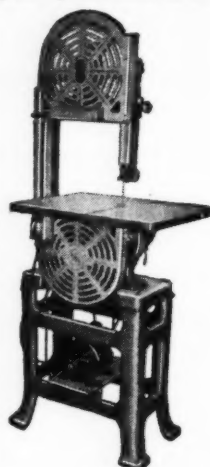


Long recognized for their high quality and efficient performance, H & A Woodworking Tools are again available to woodworking plants, contractors and builders, lumber yards, and saw mills. H & A Tools are used wherever exacting performance is required.

**IMMEDIATE DELIVERY
ON ALL MODELS**

H & A 14" Band Saw

Provides more than enough speed and power for cutting a wide variety of materials including wood, plastics, aluminum, brass, copper and other light metals. It has a large 20" x 23" table that tilts 45° right or 5° to the left. Has largest capacity of any 14" Band Saw on the market—cuts to center of 24" circle with full 11½" vertical clearance.



H & A Woodmaster

Practically a complete woodworking shop — its versatility is limited only by the imagination of the user. Adjustment mechanisms on exterior of the frame and changes in set up are a matter of seconds. The large 51" x 39½" table provides practical working surface. The under table saw carriage eliminates complicated and fast wearing overhead arms, swivels and other gear. Ten or twelve inch blade for 2¾" or 3¾" capacity.



H & A Swing Saws and H & A Jointers are also available. Write for further information on the complete H & A line of Quality Woodworking Tools.

Heston & Anderson

Founded in 1921

608 W. Kirkwood St., Fairfield, Iowa



DIVISION OF ST. PAUL FOUNDRY AND MFG. CO.

ANOTHER ADDITION TO A DISTINGUISHED FAMILY

Now . . . A Complete New Line of NATIONAL Commercial STEEL BOILERS

Designed and engineered for the largest heating jobs where extra heating capacity and economical operation are prime considerations. National Commercial Steel Boilers are available in 16 sizes with SBI net ratings ranging from 2,500 to 35,000 square feet of steam radiation—these standardized sizes complying with Standard Practice Recommendation R157-37 of the United

States Department of Commerce.

National Steel Boilers have been designed with particular attention to the needs of Automatic operation with stoker, oil and gas firing. Hence, this new National Steel Boiler embodies all the latest features desirable in an Automatically fired boiler. Too, hand fired boilers can be readily converted, after installation, to Automatic firing.

Check these features:

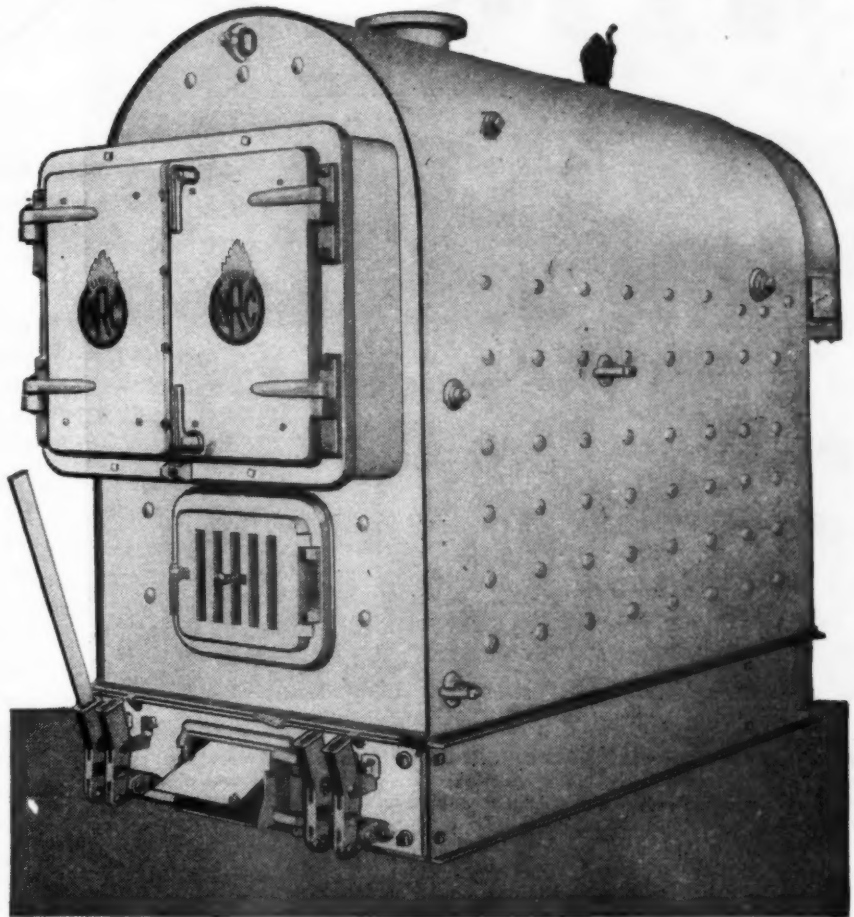
LONG, TROUBLE-FREE SERVICE from durable flange quality steel construction and Electrunite tubes. Design and construction meet or exceed the requirements of the Steel Boiler Institute Rating Code, and the American Society of Mechanical Engineers Boiler Construction Code. Each boiler is inspected and approved by a representative of The Hartford Steam Boiler Inspection and Insurance Company. Generous firebox proportions conform with the recommendations of the Stoker Manufacturers' Association.

FUEL ECONOMY from self-cleaning True-Arch Crown Sheet which prevents heat-insulating sludge from accumulating over hottest part of the firebox crown, maintaining maximum efficiency of heat transfer. Exterior surface of boiler shell finished with aluminum paint for heat conservation.

PLENTY OF HOT WATER—A wide selection of Indirect Hot Water Heaters available for year 'round supply of domestic hot water. Storage or tankless types for single and multiple heater installation. High grade brass and copper construction assures corrosion resistance, long dependable service.

UNUSUAL ACCESSIBILITY—Tight-fitting doors of generous size provide ease of firing, inspecting, cleaning. Detachable bottom plate on smoke hood gives access to rear end of tubes without disconnecting the breeching or removing the hood.

CONVENIENT GRATES built in four sections—two front and two rear (except in smallest size, one front and one rear). Greater ease in shaking and dumping the fire or removing the rocking-type grate bars. In mild weather, when rear sections can be left covered with ashes, a slow fire on front sections provides just enough heat to remove chill and provide domestic hot water.



For complete information, call your nearest NRC heating sales branch or write to
The National Radiator Company, 221 Central Avenue, Johnstown, Pennsylvania.



The NATIONAL RADIATOR Company

JOHNSTOWN, PENNSYLVANIA

HOW ATLAS DURAPLASTIC fortifies concrete

*against effects of
freezing
and thawing*

CONCRETE resists the effects of freezing and thawing weather—and has greater durability—when made with Atlas Duraplastic air-entraining portland cement. Here's how:

Duraplastic provides the proper amount of entrained air needed for satisfactory field performance. The air bubbles are not large globules, but millions of disconnected tiny cells uniformly distributed throughout the entire mass.

Because of the extra plasticity imparted by the air cells, Duraplastic cement requires less mixing water for a given slump. This reduces segregation and bleeding, thus fortifying the concrete against freezing and thawing weather.

Duraplastic is backed by years of research and testing, and complies with ASTM and Federal Specifications. For further information, write Universal Atlas Cement Company (United States Steel Corporation Subsidiary), Chrysler Building, New York 17, New York.

OFFICES: Albany, Birmingham, Boston, Chicago, Cleveland, Dayton, Des Moines, Duluth, Kansas City, Minneapolis, New York, Philadelphia, Pittsburgh, St. Louis, Waco

AB-D-54

A HIGHLY MAGNIFIED SECTION OF DURAPLASTIC CONCRETE would look something like this. The two large black areas represent small portions of coarse aggregate; the remaining black spots represent sand; grey area represents cement paste; white dots represent entrained air bubbles.

ATLAS DURAPLASTIC

AIR-ENTRAINING PORTLAND CEMENT

MAKES BETTER CONCRETE AT NO EXTRA COST



"THE THEATRE GUILD ON THE AIR"—Sponsored by U. S. Steel Subsidiaries—Sunday Evenings—ABC Network

So many ways to *build* with **ZONOLITE!***

Simplifying the problems of architects all over the country, the many ways of using Zonolite are exemplified in thousands of jobs. Shown here are typical installations. Lightweight Zonolite reduces dead load, is an inorganic 100% fireproof and permanent material. Include dependable, easy-to-handle Zonolite products on your next specifications. Clients are better satisfied . . . time and money saved!

Zonolite Fill Insulation

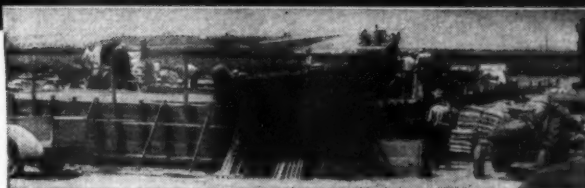
Easy to install between joists in attics and between studs in sidewalls. Weighs about 6 pounds per cubic foot. 100% fireproof—rotproof—verminproof. Won't irritate workers' hands! No masks required!

Insulating Concrete

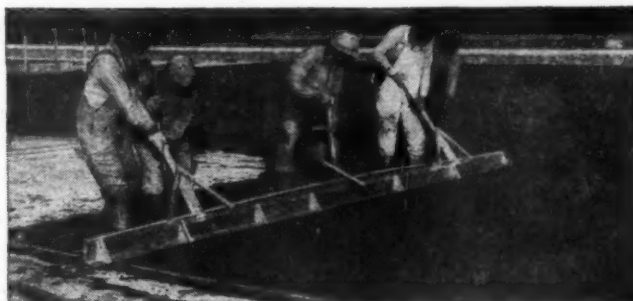
Ideal for insulating fill and structural roof decks. Fireproof—rotproof—permanent. To make Zonolite Insulating Concrete simply mix with ordinary cement instead of sand. Weighs as little as 16 pounds per cubic foot when mixed. Used for floors in homes, commercial buildings and farm structures.

Insulating Plaster

Zonolite Plaster Aggregate is used in place of sand. It's easier to mix. Reduces mortar weight one half. Can mix inside building to save handling time. Works easy. Won't freeze. Crack resistant. Insulates against heat, cold and sound and makes better satisfied customers.



• Ten men install 16,000 cubic feet of Zonolite in 20 hours in giant cold storage plant. Zonolite Granular Fill in walls and ceilings—Zonolite Concrete for floors.



• Screeding Zonolite Insulating Concrete roof fill over concrete slab. Easily formed into saddles and cants for proper drainage.



• Zonolite Granular Fill easily installed in attics and sidewalls—new work or remodeling. No gloves or masks needed.

• (At left)—Zonolite Insulating Plaster being mixed indoors and applied. Can be applied to same surfaces as sand plaster.

Universal Zonolite Insulation Co.

Dept. AB-127, 135 S. LaSalle St.
Chicago 3, Illinois



**FOR DETAILS
MAIL COUPON
NOW!**

Universal Zonolite Insulation Co.
Dept. AB-127, 135 S. LaSalle St., Chicago 3, Illinois

Gentlemen: Please RUSH complete information on () Zonolite Granular Fill Insulation () Concrete () Plaster.

Name.....

Address.....

City.....Zone.....State.....

*Zonolite is the registered trademark of Universal Zonolite Insulation Co.

SEE YOUR LOCAL LUMBER and BUILDING MATERIAL DEALER



No, he's not washing the floor . . .
he's hardening it with

LAPIDOLITH

to save it from concrete
dusting and disintegration

LAPIDOLITH Liquid (patented) thoroughly hardens concrete floors for heavy-duty service without interrupting work schedules . . . saves the cost and inconvenience of patching and retopping.

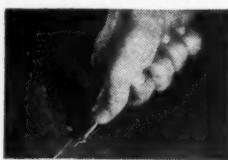
TO TIMES HARDER

LAPIDOLITH penetrates quickly and deeply, reacting with the lime in the cement to form a close-grained, granite-like surface 10 times harder than untreated concrete. Dusting is eliminated; danger from alternate freezing and thawing minimized; floor protected against action of oils and many chemicals. Excellent for terrazzo floors, too.

EASY TO APPLY

Lapidolizing is just as easy as washing a floor. The first treatment is the only treatment—the first cost is the only cost. In fact, the results gained with LAPIDOLITH cost less than any other known method of dustproofing and wearproofing floors!

More facts in SWEET'S, or write Dept. B12 for illustrated brochure packed with floor-saving information.



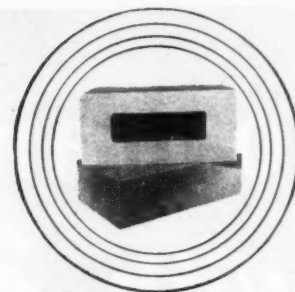
You can do this to many untreated concrete floors, but not to a Lapidolized floor!

SONNEBORN "BUILDING SAVERS"

Floor Treatments • Waxes • Paints and
Protective Coatings • Concrete and Mortar
Admixtures • Waterproofing and
Dampproofing • Caulking Compounds
Roof Coatings

IF IT'S
WORTH BUILDING
IT'S
WORTH SAVING

Building Products Division, L. SONNEBORN SONS, INC., New York 16, N. Y.
In the Southwest: Sonneborn Bros., Dallas 1, Texas



Be the Local Manufacturer of this Modern Building Unit

The business is timely. The product is America's smartest and most beautiful masonry building unit. The market is as big and wide open as the huge building industry. Potential earnings are the greatest offered by any masonry product.

Such a combination forms the outstanding manufacturing opportunity in the building field. It offers men like you the chance to establish a life time business within a basic industry.

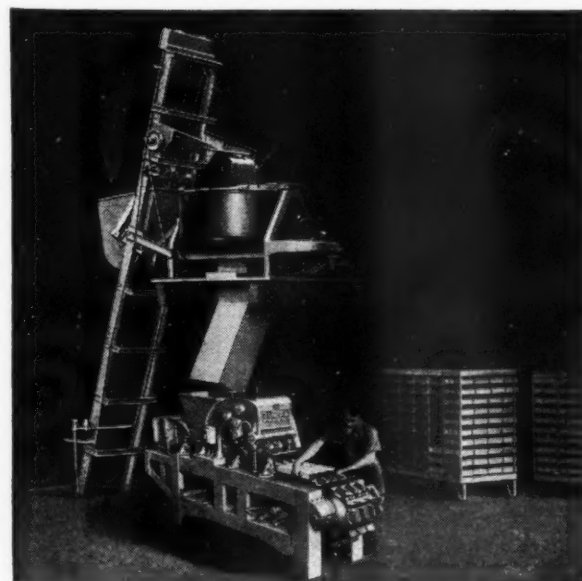
Colorful Beauty...Modern Design

Dunbrik gears with today's demand for LOW-COST masonry with the utmost in eye-appeal. With strength a-plenty and impregnated water-resistant values. A product made in local plants, from local materials with local labor, and at production costs that provide HIGH EARNINGS—even after effecting tremendous savings to building owners.

New territories are now being opened to men of vision and aggressiveness. Write or wire us today for reservation covering your territory, and descriptive literature.

W. E. DUNN MFG. CO.

450 W. 24th Street, Holland, Michigan



DUNBRIK

"I like



Supertreated Pol-mer-ik

because it makes my
paint jobs look better
and last longer!"

So writes W. R. BRUNER of Minneapolis, Minnesota, a master painter of 30 years experience, one of thousands glad to see Pol-mer-ik back... for its smoother brushing... for its better glossing... for its finer leveling qualities.

The reason: Pol-mer-ik is *Supertreated*. It is 100% pure linseed oil that has been given a special processing and blending to strengthen its molecular structure. It is easier to use and forms a tougher, better looking paint film.

Pol-mer-ik

100% PURE LINSEED OIL

Available in
Factory Sealed Cans
EXTRA VALUE
AT NO EXTRA COST

Product of **ARCHER-DANIELS-MIDLAND CO.**
MINNEAPOLIS, MINNESOTA

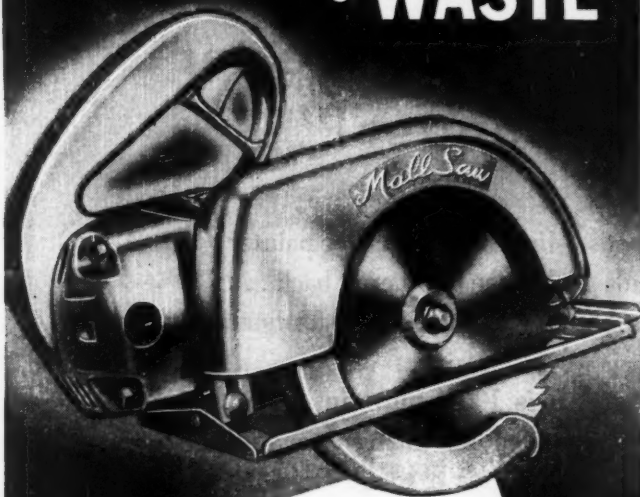
Send additional information on Supertreated Pol-mer-ik Linseed Oil.

Name _____
Firm _____
Address _____
City _____ Zone _____ State _____



Cut

• COSTS
• TIME
• WASTE



WITH A
Mall Saw
REG. U.S. PAT. OFF.

Every cutting job—cross-cutting, ripping, dadoing, angle cutting, bevel cutting, multiple cutting, mortising, scoring, or cutting light gauge metals—can be done faster . . . better . . . cheaper with an Electric MallSaw. Clean, quick, accurate cuts save time—provide square board ends . . . assure better fitting . . . eliminate waste. The Model 70 MallSaw has a 2 1/4" capacity on straight cuts; the Model 86—2 7/8". (Capacities vary slightly on bevel cuts.) Larger and smaller models are also available. All are equipped with powerful Universal motors.

Ask your dealer or write for literature on MallDrills, MallSaws, Mall Concrete Vibrators and Mall Chain Saws

POWER TOOL DIVISION

MALL TOOL COMPANY

7737 South Chicago Ave.

Chicago 19, Illinois

Mall
REG. U.S. PAT. OFF.

**PORTABLE
POWER TOOLS**

FOR STRONGER CAVITY WALLS



... ALWAYS USE

NON-RUSTING
Copperweld
WALL TIES

● You can be sure of permanent strength and safety in cavity wall construction when you use Copperweld Wall Ties to bond the walls together.

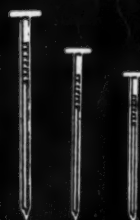
Copperweld Wall Ties give you the high strength of alloy steel—made permanent by a heavy protective covering of non-rusting copper. The two metals, inseparably united by our exclusive Molten-Welding Process, provide a breaking strength of about 2 tons—a breaking strength that remains constant since these ties cannot rust and will not deteriorate in the wall.

These cavity wall ties are available for immediate shipment. They are made in two sizes—6" and 8"—and are packed 500 of one size to a box.

Specification Bulletin mailed on request.

COPPERWELD STEEL COMPANY
GLASSPORT, PA.

SALES OFFICES IN PRINCIPAL CITIES



**Time-Tested
Copperweld Nails**
will help you do
a better job!



He changed "Watertown" to "Timken Town"

ALL AUTOMATIC oil burners installed in Jefferson County, N. Y., have to pass a state electric inspection. So says the law that went into effect in February, 1947.

And here's what Jefferson County records say: *Timken Dealer C. A. Burkhard, Watertown, N. Y., has installed more Timken Silent Automatic Oil Burners since that date than the total of all other makes combined.*

And thereby hangs a tale.

Burkhard took the Timken franchise in 1936—did a steadily increasing business in the next few years—sold 41 Timkens in 1941, last full year of prewar production.

But here's his record since that time: 1946—126 Timkens installed; first four months of 1947—74 Timkens installed!

"I wish I could say it was all due to good selling on my part," writes Timkeneer Burkhard, "but it wasn't. *Satisfied users and public acceptance of Timken have been principally responsible for making Watertown another Timken Town.*"

That's the way it goes, wherever a Timken is installed. Neighbor follows neighbor—neighborhood follows neighborhood—until entire communities know the comfort, convenience and economy of Timken Oil Heat.

The steadily growing public preference for Timken is based on one thing: *Homeowners are convinced that Timken quality is the best possible buy.*

And the value of the Timken Dealership Franchise grows, as town after town becomes a *Timken Town.*

The Royal Family of Oil Heating



OIL
BURNERS



OIL
BOILERS

TIMKEN
Silent Automatic
OIL HEAT

TIMKEN SILENT AUTOMATIC DIVISION
The Timken-Detroit Axle Company
JACKSON, MICHIGAN



OIL
FURNACES



WATER
HEATERS

Here's



how!



Want to build with lasting beauty? Put the Western Pines to work! Versatile and economical, these radiant woods bring *durable* charm to houses mansion-like or modest.

Inside or out, upstairs or down, building questions almost answer themselves when you build with Western Pines*. Their even-grained loveliness, which responds to any desired finish, makes them a natural choice for hundreds of interior uses. And, properly seasoned, carefully selected, they stand staunchly against weather's onslaught.

In many ways, and for long years, these fine woods emphasize the architect's talent, the builder's skill.

DO YOU — PLAN? — BUILD? — FINANCE?

If so, these free booklets will come in handy when talking to your clients and customers. A postcard request brings them to you.

1. Beautiful Paneled Walls of Genuine White Pine.
2. Making Motor Courts Pleasantly Remembered.
3. Pine Paneled Staircase Details.

Address—Western Pine Association, Dept. 12B,
Yeon Building, Portland 4, Oregon.

*Idaho White Pine

*Ponderosa Pine

*Sugar Pine

THESE ARE THE WESTERN PINES

*Well-manufactured — thoroughly seasoned — rigidly
graded — by all Association member mills*

Contractors and Builders

1. If you have a problem with water or dampness, THOROSEAL will correct and solve the problem.
2. THOROSEAL is prepared especially to fill and seal voids and cracks, to equalize the absorption in the various units comprising the surface and to make a beautiful, matt-textured finish.

It may be the home or garage!

It may be the cellar!

It may be the cistern or pool!

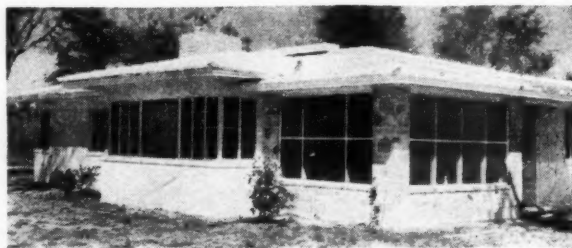
It may be the dairy barn or milkhouse!

It may be the city water reservoir!

It may be the stable or pens!

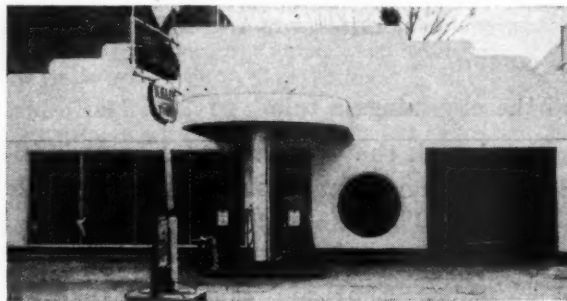
It may be the commercial building!

It may be the factory or warehouse!



This is a 100% THOROSEAL home, not only the interior and exterior, but over the roof. THOROSEAL adds protection and beauty.

Not only the exterior wall surfaces of any type of masonry, including the sills and lintels, the roof, but the interior walls of light manufactured block can be filled and sealed with THOROSEAL and then a beautiful finish coat of QUICKSEAL.



The small commercial building, constructed of lightweight block or brick, can be perfectly sealed and filled with THOROSEAL and then given a delightful finish of QUICKSEAL.

Throughout the United States and Canada, buildings of every type are being protected and beautified with THORO System products.

Write at once for our new and up-to-the-minute Circular No. 17, which describes, in photographic detail, all the methods of The THORO System of protection against heavy rains and storm waters, how to seal the surface of new homes and every type of masonry, on the inside or outside surface, above or below grade.

Request your Lumber or Builders' Supply
Dealer in your home city to order for you.

Standard Dry Wall Products, Inc.
BOX X NEW EAGLE, PENNA.

Give Your Homes ANOTHER FEATURE

**-and SAVE MONEY
at the SAME TIME**

**NOW EVERY HOME CAN
HAVE LUXURY HEATING...**
with the **TRANE** Convector-radiator

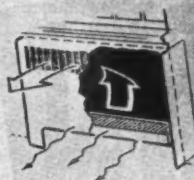
HERE IS DELIGHTFUL COMFORT—PLUS
REAL BEAUTY—AT A BUDGET PRICE

[illegible]

HOW TRANE CONVECTOR - RADIATORS FUNCTION

HOW TRANE CONVERTS FUNCTION

Inside the cabinet of the Trane Convertor-Radiator is a light-weight aluminum and copper heating element. This modern element heats volumes of air quickly but with no flame and no fumes and, properly, causing it to flow from the unit, eliminating cold spots around windows and circulating throughout the room. To the rising icy feeling resulting from this warmed air in motion is added just the right amount of radiant heat. Trane Convertor-radiators may be individually regulated at the touch of a finger. No other heating system gives you this ideal combination of perfect heat, instant response, and proved fast economy—and no other heating device so effectively releases heat at the exact point where heat is needed most.



NOW YOU CAN HAVE THIS IDEAL HEATING

With Trane Comfort-Statulators you have everything in one unit, and installation is simple, automatic control is built in. Trane Comfort-Statulators are easy to install, and for more information about a particular model, write to The Trane Company, P.O. Box 115, Kenosha, Wis. 53141. How to Live in June All Winter.

TRANE

THE TRANE COMPANY • LACROSSE, WISCONSIN
CANADA, LTD., TORONTO

Manufacturers of the World's Largest Line of
Heating, Ventilating and Air Conditioning Systems

TRANE Convectors—Designed for Beauty—Engineered for Efficiency

BEAUTY

Trans Convector radiators can be recessed to occupy almost no floor space, and their clean flat surfaces may be painted to harmonise with any interior.

SAFETY

The smooth rounded corners of Trans Convector-radiators have no sharp edges. The gentle radiant and convected heat can't harm the furniture or draperies.

CLEANLINESS

The clean, healthy heart
Connector ridges banishes that
stuffy, "dried-up" feeling. The design
units have no hiding places for dust,
nor can they bring in outside dirt.

LONG LIFE

The sturdy steel cabinets are designed to resist even willful abuse. The "life time" metal heating elements give years of care-free service.

Nationally Advertised Trane Convactor-radiators Help Sell Homes

Now you can show your prospects an *entire heating system* that bears a nationally advertised brand name. It's another feature to make your homes still easier to sell—yet its low cost makes it possible for you to save money on a quality heating system.

Here Is Luxury Heating

Trane Convactor-radiators provide the ideal combination of warmed moving air plus just the right amount of radiant heat. They give full decorative freedom and amazing ease of control.

Save Money Three Ways

Both purchase price and installed cost of Trane Convector-radiators are actually *less* than any other type unit for steam or hot water heating systems. Control is easy, requiring no complicated arrangements. "Lifetime" metal heating elements assure complete freedom from trouble. Best of all, these remarkable units are now available from local jobbers' stocks. Write for Catalog A3 and the names of authorized Trane jobbers in your area.

National Advertising
Builds **TRANE** Convactor-radiator DEMAND

ADVERTISEMENTS, like the one above, are appearing in color in five national "home interest" magazines. Millions of people are reading about luxury heating with Trane Convectors-radiators.

BUYER PREFERENCE will go to this tried and proved brand name method of heating. Your prospects want heating they know will work, and Trane Convector-radiators have proved themselves for 20 years.

TRAN E

Manufacturing Engineers of Equipment for
HEATING AND AIR CONDITIONING

THE TRANE COMPANY, LA CROSSE, WISCONSIN • Also TRANE COMPANY OF CANADA, LTD., TORONTO, ONTARIO



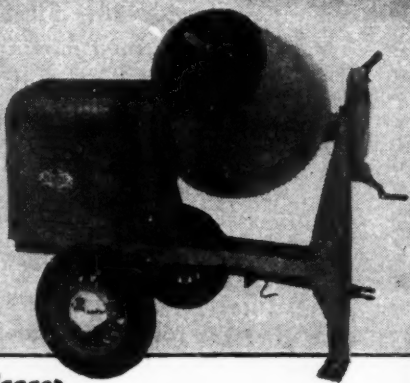
Structural Reinforcing or other Bldg Steel Shipped from Stock

Write for Stock List—
your guide to over 10,000
different kinds, shapes
and sizes of steel for
quick shipment from ten
plants.

Joseph T. Ryerson & Son, Inc., Plants at: New York, Boston, Philadelphia,
Detroit, Cincinnati, Cleveland, Pittsburgh, Buffalo, Chicago, Milwaukee,
St. Louis, Los Angeles.

RYERSON

TRADE MARK
ECLIPSE
TILTING
DRUM
CONCRETE
MIXER



A Full Half Bagger

AN Improved LOW-PRICED MIXER

A handy, profitable 3½ cu. ft. machine that will handle all classes of work done by the average contractor. The Improved Eclipse 3½ Mixer embodies all the latest refinements in design and is guaranteed as to materials and workmanship. Engine runs in oil and is controlled by throttling governor to insure constant speed and steady power. The engine is completely enclosed in a steel housing. Main bearings are bronze, readily accessible. Sturdily built and easy to move.

Quick uniform mixing — easy to load — visible mixing action — handles coarse or fine aggregate — moves anywhere.

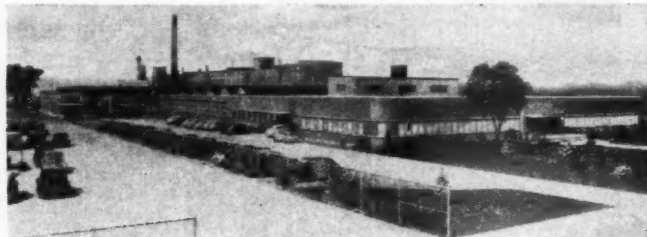
WRITE OR WIRE FOR DETAILS

MANUFACTURED BY
GEO. C. CHRISTOPHER & SON IRON WORKS
FOR FORTY YEARS THE WORLD'S BEST IN CONCRETE MACHINES
P. O. BOX 610 WICHITA, KANSAS

New Modine Administration Building Is Officially Opened

MODINE Manufacturing Co. has officially opened its recently completed new administration building adjacent to the manufacturing plant at Racine, Wis. Of one-story construction, it is 185 feet long, attractively modern in both structural and interior styling.

The main lobby is wood panelled, with terrazzo floor and a liberal use of aluminum and glass trim for decoration. The directors' room and several of the private offices are panelled in walnut. Other private offices and the main office area are finished in soft tones of blue, yellow and gray, of-



VIEW of the new Modine Administration Building

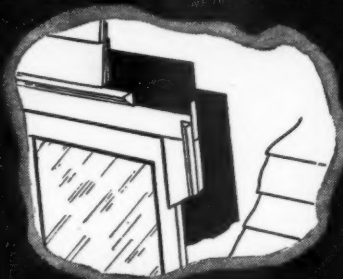
fering a cheerful, attractive atmosphere for employees and visitors. Acoustical ceiling is used throughout. Lighting is fluorescent. Air conditioning extends through all engineering and drafting space, as well as in the private offices and main office area.

Double-glazed, sealed windows and glass block fenestration admit light, but act as insulation against temperatures and noise from out-of-doors.

Architects for the new building were Graham, Anderson, Probst & White of Chicago. In designing the building, they took full advantage of advanced construction technique and building materials to provide both pleasant and efficient working conditions.

Now Available! COPPER ARMORED SISALKRAFT

Strong, flexible, easy to apply! For door and window flashing, as shown, 6—10-or 12 in. Copper Armored Sisalkraft in 1 oz. weight is recommended.



**PURE COPPER PROTECTION
at 1/5 the NORMAL COST!**

Copper Armored Sisalkraft is pure electro deposit copper reinforced with thousands of crossed sisal fibres and bonded with two layers of special asphalt to heavy kraft paper. Uniform, lightweight, will not kink, break or tear. 100% impervious to moisture. For all concealed flashing and foundation damp-coursing. Available in 6" to 60" widths, copper weights of 1, 2 or 3 oz. per square foot.

Write for complete information.



The SISALKRAFT Co.

205 W. WACKER DRIVE DEPT. AB CHICAGO 6, ILLINOIS

NALL *Radial* **woodworker**



NALL MOBIL-SHOP Rolls from job to job!



This Nall Woodworker on wheels is a rugged fast-moving portable shop.

Write for details.

**BUILT TO MULTIPLY
YOUR MANPOWER,
SAVE TIME
and LOWER COSTS**

**...through Multiple
Operations on the job**

Here is a powerful tool that will help you step-up your working schedules by performing many multiple cutting operations on the job . . . and by eliminating many bottlenecks in millwork that hold up the crew. The Nall Radial Woodworker was designed and built for contractors after thousands of personal contacts with men who know building problems and who wanted the advantages of an outstanding Radial Woodworker . . . one that would perform *all* Radial Arm Saw operations accurately, easily and at low investment. That is the Nall.

From the foundation through boxing and finishing, there are so many natural time-saving uses for a Nall that your men will call it the most useful tool on the job. And because of its simplicity of operation, finger-tip control and precision, men learn to use it quickly . . . easily . . . safely. A Nall can be set-up for every Radial Saw operation in less than a minute.

Surely, Mr. Builder, you want to apply every force available to cut costs and time; to build good structures . . . profitably. Then you want Nall Radial Woodworkers on your jobs. Write us for the details, today.

MARATHON
FOUNDRY AND MACHINE COMPANY
WAUSAU, WISCONSIN

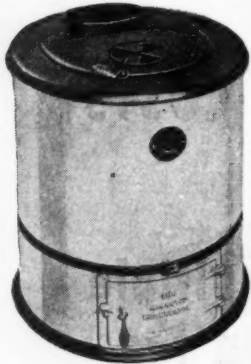


Majestic Building Necessities

FUELLESS INCINERATOR

Low-Cost Convenience for Every Home

The Majestic No. 30 Home Incinerator operates without fuel, fumes, or fuss, and costs the owner nothing to use. It is the easy, sanitary way to dispose of garbage and waste—especially where automatic heating prevents rubbish-burning in the furnace. Burns wet or dry garbage and rubbish; downdraft action constantly dries the waste. Taps to flue in basement or utility room; does not affect heating plant. Holds about 3 bushels, and is only 2 ft. in diameter, less than 3 ft. high. Neat silver-and-blue duotone finish. Write for more details.



The Majestic Company

834 Erie Street, Huntington, Indiana

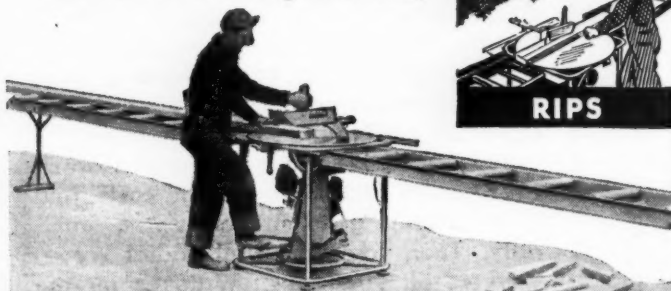
Majestic Building Products

Nationally Known and Advertised for Over 40 Years

Turn the Table— Make the Cut

With the Nordberg-Buday Saw there is no shifting of long lumber when changing the cutting angle. The table is rotated instead. This makes faster cutting — reduces cutting costs. Savings soon pay for this saw. Another feature is portability. Easily moved — weighs only 340 pounds. Furnished with gasoline engine or electric motor drive. Write for Bulletin 132.

NORDBERG MFG. CO. Milwaukee 7, Wis.



NORDBERG-BUDAY POWER SAW



CROSS CUTS

MITERS

RIPS

John L. Nelson, White Pine Sash Company Official, Killed in Airplane Crash

JOHN L. NELSON, 57, vice-president and secretary of the White Pine Sash Co. of Chicago, Illinois, was one of 52 persons in a fatal airplane crash October 24, at Bryce Canyon, Utah. He was enroute from Los Angeles to Chicago after accompanying his son James on an auto tour to the west coast where the younger Mr. Nelson was establishing a new home. John Louis Nelson was born in Sioux City, Iowa, but made Chicago his home throughout his business life, all in the sash and door business. His early experience was gained with Foster-Munger Co. of Chicago. Later he was identified with Chicago Millwork Supply Co., and still later, for several years with Morgan Sash & Door Co., Chicago, which he represented in the Michigan sales territory. He organized in 1925 with the late Henry Klopp and other associates, the present White Pine Sash Co. His company was a charter member of Woodwork Jobbers Service Bureau and Mr. Nelson had served as treasurer since April, 1944.

Three Officers Promoted by Masonite Corporation

THE directors of Masonite Corporation have promoted three officers of the company. John M. Coates and Walter G. Stromquist are vice-presidents and Ben O. Anderson is treasurer. Mr. Coates will continue executive duties as assistant to the president. He joined Masonite in 1939 as company counsel.

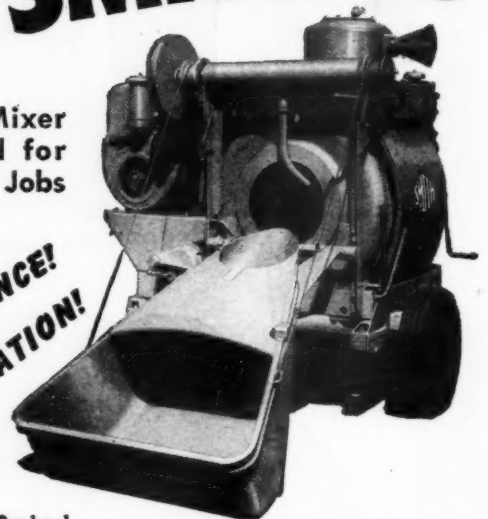
Mr. Stromquist will take charge of sales and merchandising, succeeding E. L. Saberson who will continue in active service as adviser to the president. Mr. Stromquist joined the organization in 1937 as assistant sales manager and has been general sales manager since 1943.

Mr. Anderson, who joined Masonite shortly after its wood fiber hardboard plant started operations, has been active in the company's financial affairs for 21 years.

New SMITH 6-S

Just the Mixer
You Need for
Your Small Jobs

• SPEED!
• BALANCE!
• EASY OPERATION!



Here's a handy, 2-wheel trailer type mixer... lightweight... well-balanced... easy to tow... easy to "spot." All levers grouped for quick, easy operation. Wear resistant steels and welded construction assure long life. Non-impact skip vibrator. Low, accurate, syphon type water tank. Choice of air-cooled or radiator-cooled engine. Write for Bulletin No. 235 just off the press.



THE T. L. SMITH COMPANY
2849 N. 32nd Street • Milwaukee 10, Wisconsin

MIXERS

Famous for Performance on the World's Greatest Projects



National Lock Kitchen Cabinet Hardware
...gleaming chromium...styled to sell. New
full-color counter display included in new "Short-
line" deal. Write us or order from your jobber.



Universal

LEVEL-TRANSIT

with coated optics

Rugged — accurate — highly dependable, the Universal Level-Transit offers builders an all-purpose instrument of unexcelled practicality and versatility. Quickly converted from a precision level to a highly accurate transit in two easy motions.

Patented ball-bearing race assures perfect adjustment under severest conditions. Telescope 12" long, 25 power, horizontal circle 4½" with Verniers to 5 minutes. Write today for full information — also free booklet, "How To Lay Out Building Lots."

DAVID WHITE
COMPANY

301 West Court Street,
Milwaukee 12, Wisconsin

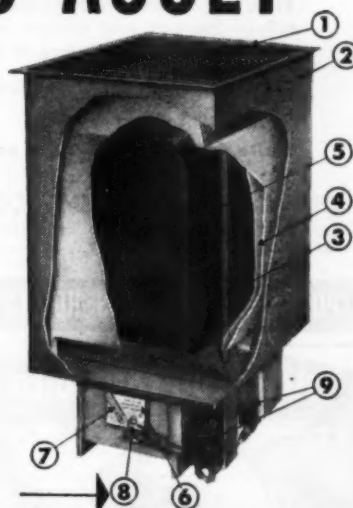
Manufacturers of instruments
for engineers, surveyors and builders.

EXCLUSIVE ELECTRIC IGNITION

ON
H.C. Little
OIL FLOOR FURNACE

IS A BIG SALES ASSET

No Pilot Light —
No Wasted Oil —
Lower Fuel Bills —
Greater Comfort
and Convenience



ALL THESE FEATURES HELP SELL HOUSES!

Here's the PERFECT oil heating unit for low cost housing—combining floor furnace economy with big furnace performance—the ONLY oil floor furnace offering intermittent (on and off) operation, with EXCLUSIVE ELECTRIC IGNITION and NO PILOT LIGHT. This outstanding feature saves fuel, gives superb performance, provides the ultimate in comfort and is a big sales asset from the builder's standpoint.

1. BEAUTIFUL REGISTER—close mesh protects heels.
2. LOW COST INSTALLATION—right in the floor.
3. EXCLUSIVE H. C. LITTLE THERMO LIMIT SAFETY CONTROL.
4. DOUBLE WALL BAFFLE.
5. WELDED STEEL Vented Combustion Chamber.
6. EXCLUSIVE, PATENTED BURNER—Underwriters' listed—no moving parts.
7. NEW "THERMATIC" BURNER DOOR—for faster, easier starting.
8. EXCLUSIVE ELECTRIC IGNITION—the ONLY oil floor furnace with this feature—NO pilot light.
9. AUTOMATICALLY CONTROLLED OIL VALVES.

BRANCHES IN
18 PRINCIPAL
CITIES



H.C. Little
BURNER CO.

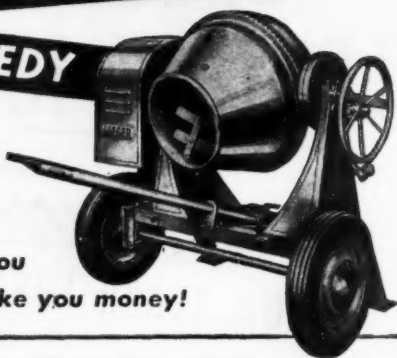
Dept. AB-12, SAN RAFAEL, CALIFORNIA

announcing! JAEGER

3½-SPEEDY

Speedy Towing
Speedy Spotting
Speedy Pouring

— to save you
time and make you money!



Patented V-bottom drum gives double mixing action — assures fast, clean discharge of concrete, plaster, or bituminous mix. Quick, controlled, semi-automatic tilting.

Spots quickly at material piles. Tows with loading end at rear. Back up to the pile, unhitch, go to work. No turning.

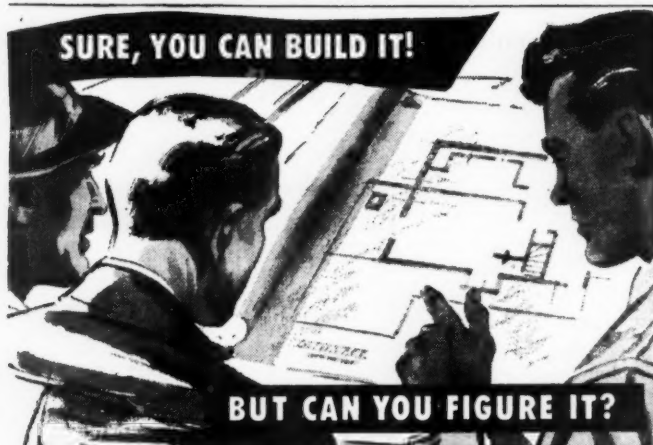
Wheeler approach the discharge opening from either side — barrows spot without jockeying, leave without reversing direction. No feet or legs to interfere.

Trails swiftly and safely behind lightest cars. Easy to move on the job.

Write for Bulletin TE-7, or see your Jaeger dealer

THE JAEGER MACHINE CO. Main Office and Factory
Columbus, Ohio
REGIONAL OFFICES: 8 E. 48th St., 226 N. LaSalle St., American Life Bldg.,
New York 17, N.Y. Chicago 1, Ill. Birmingham 1, Ala.

PUMPS • COMPRESSORS • HOISTS • LOADERS • PAVING EQPT.



LEARN ESTIMATING IN YOUR SPARE TIME

Learn estimating this simple, self-teaching method! Just multiply by our simple factors to determine your labor and materials costs. Fast, accurate, complete and dependable! You can learn in your spare time. Why take chances on confusing, old-fashioned methods. It costs nothing to see it!

The Tamblyn System

FREE TRIAL OFFER ★ SEND NO MONEY!

Tamblyn System, 210 C. A. Johnson Building, A-12, Denver, Colo.

Send me the complete Tamblyn System on free 10 days trial! If I like it I will pay \$8.75 when 10 days are up and \$7.50 per month until \$38.75 is paid. Otherwise I will return it.

Name _____

Address _____

City _____

State _____

Record Attendance on Hand for National Hardware Show in New York

ATTEENDANCE at the National Hardware Show in Grand Central Palace, New York City, October 15-18, reached a total of 53,580 with a buyers' registration of 24,671, making it by far the greatest show in the history of the industry. While immediate delivery was the by-word with many manufacturers as show doors opened, the heavy buying soon placed many of them on anywhere from 90 days to a year's delivery. Several firms took orders at the show for well over a million dollars in volume.

Stuart Jones Elected Head of Wire Screen Bureau

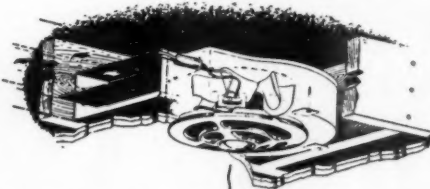
STUART M. JONES, sales manager of the New York Wire Cloth Co., has been elected president of the Insect Wire Screening Bureau. Herman J. Blaser, vice-president of the Keystone Wire Cloth Co., Hanover, Pa., and of its parent corporation, Seneca Wire and Manufacturing Co., Fostoria, Ohio, has been named vice-president. Ralph W. Bacon, of New York, continues as secretary.

Nichols Wire & Steel Announces Personnel Changes

FRANK R. NICHOLS, president of the Nichols Wire & Steel Co., Davenport, Iowa, recently announced the appointment of G. V. Dryden as chairman of the board of directors. Mr. Dryden has been associated with the firm for 23 years. F. P. Leahey has been elected vice-president and W. J. Johnston, formerly assistant treasurer, has been made treasurer.

Herman C. Haas Heads Sales for Berger, Inc.

THOMAS W. BERGER, INC., national sales organization for Sani-Way Electric garbage eliminator, Elgin kitchen cabinets and sinks, and kindred lines, has announced the appointment of Herman C. Haas as sales manager. Mr. Haas was with the former Crosley Radio Corp.



FRYING FISH IS A BUILDER'S PROBLEM



Mrs. Housewife has passed that one on to you—you can best solve it with...

Blo-Fan

ELECTRIC CEILING VENTILATOR

Blo-Fan builds into the ceiling directly over the kitchen range—where a fan belongs, and costs but a fraction of the value it adds to a home.

SEND A POST CARD TODAY FOR COMPLETE INFORMATION

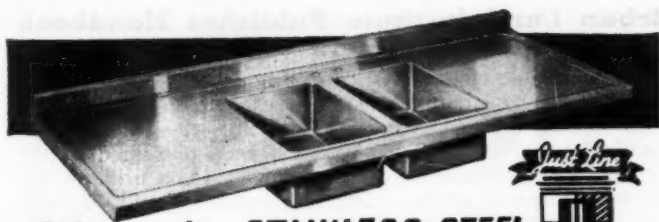
Blo-Fan

more than a fan

more than a blower

Nationally distributed

PRYNE & CO. INC., LOS ANGELES 54, CALIFORNIA • NEW YORK • CHICAGO



Before you buy **STAINLESS STEEL** **SINKS and CABINET TOPS**

investigate the long-life economy and efficiency of JUST LINE quality. In addition to all-welded seamless construction, radius corners and many other features, JUST LINE SINKS give you the

EXCLUSIVE *Radiuluxe* DESIGN

- 1 IN-BUILT ANTI-SPLASH RIM ON BOWLS
- 2 DOUBLE-PITCH DRAINBOARDS . . . no channels to clean, no grooves to endanger fine glassware.

CUSTOM-BUILT or STANDARD SIZES

JUST LINE products also include SCULLERY SINKS in Stainless Steel or hot-dip galvanized after fabrication, as well as Stainless Steel equipment for hospitals, schools, factories and institutions. Prompt service.

Write today for bulletins and details.

Just Manufacturing Co.
4610-20 W. 21st Street, Chicago 50, Illinois

Lemco SOLID STEEL CASEMENTS America's Oldest Casement Windows



Lemco's thirty years of quality workmanship with over one million casements satisfactorily installed is your guarantee of a perfect job.

Immediate shipments from our large warehouse stock.

See our catalog in Sweet's or write today for your copy.

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JAMESTOWN, N. Y.

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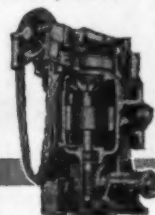
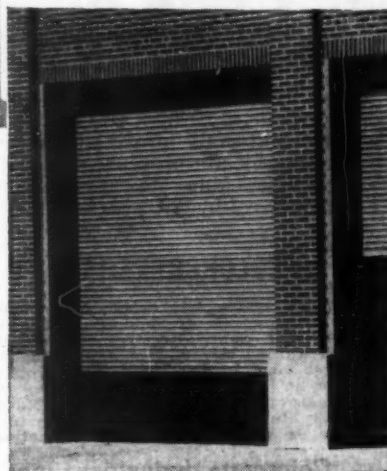
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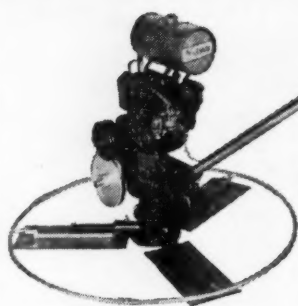
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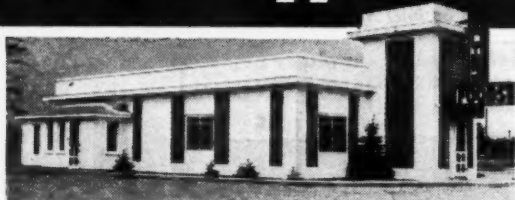
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Urban Land Institute Publishes Handbook For Community Builders

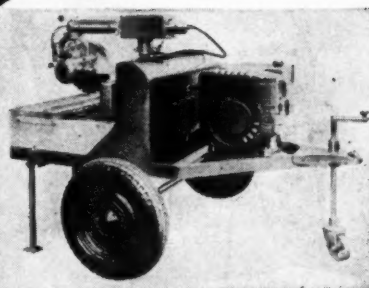
THE desirable characteristics of future neighborhoods are set out by the nation's leading residential developers in something new in American building—the "Community Builders Handbook," which has just been published by the Urban Land Institute of Washington, D. C., a private land planning research group. The authoritative handbook tells how to plat and build neighborhoods that will remain attractive and retain value for several generations. Authors of the book are men who have done the best residential community building from Toronto to San Diego.

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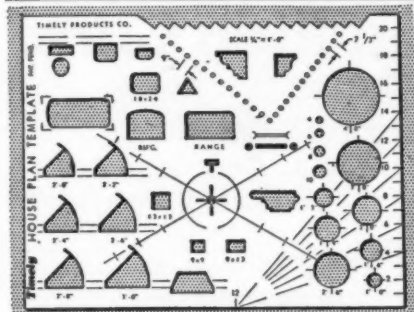
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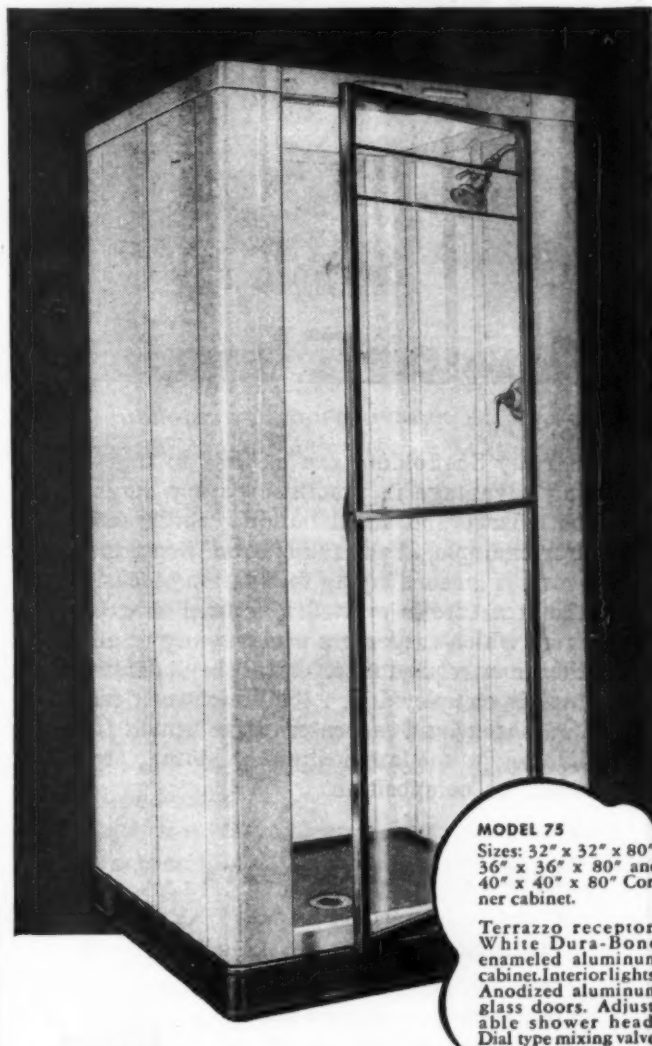
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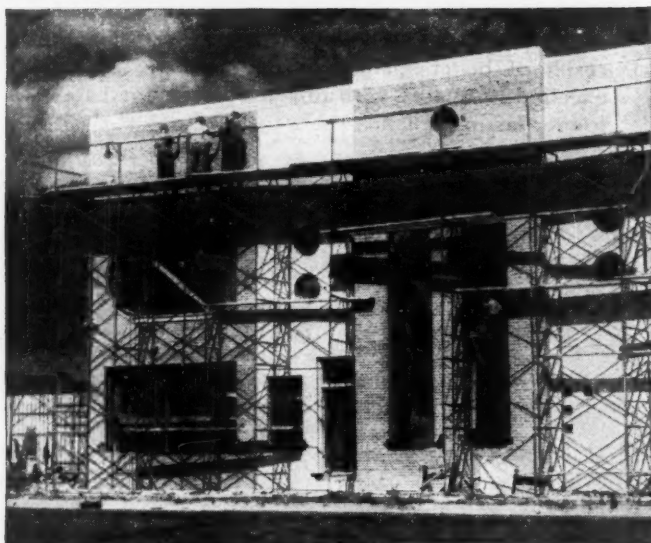
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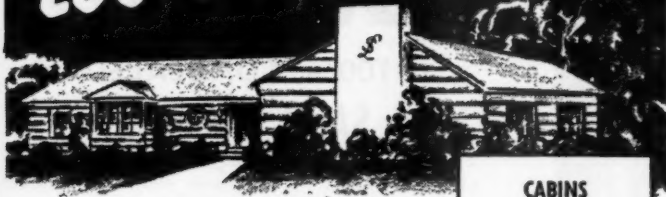
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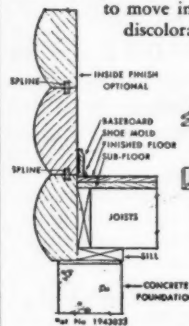
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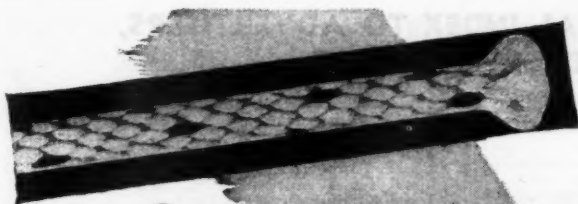
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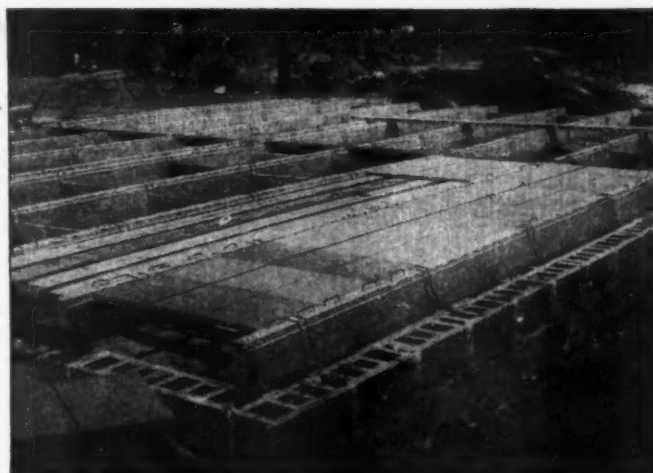
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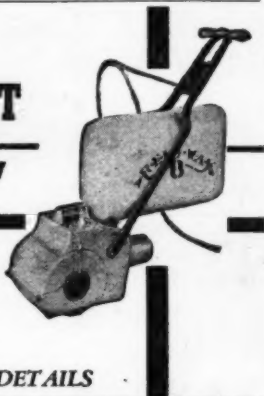
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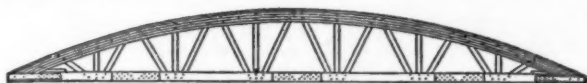
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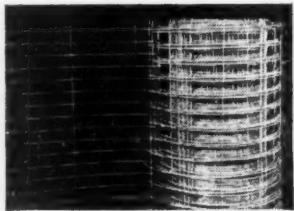
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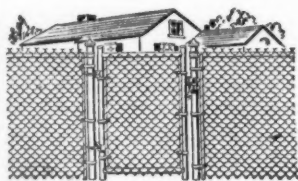


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For every type of concrete reinforcement. High, uniform tensile strength. Wide range of styles in gauge and spacing. In sheets or rolls cut to size. Easy to store and install.



Realock Fence

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"Clinton" Brand Hardware Cloth

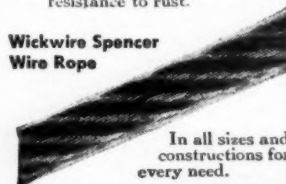
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Made of selected wire and carefully jappanned. Unequaled for toughness, durability and resistance to rust.

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The Coburn #500 Set is adaptable to practically all types of garages. It doesn't interfere with usable floor space. Perfect counterbalance assures effortless operation. Coburn #500 is economical too, for even though it is high in quality, its cost is in the lowest price field.

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● Any "OVERHEAD DOOR" may be manually or electrically operated. Sold and installed by Nation-Wide Sales — Installation — Service.



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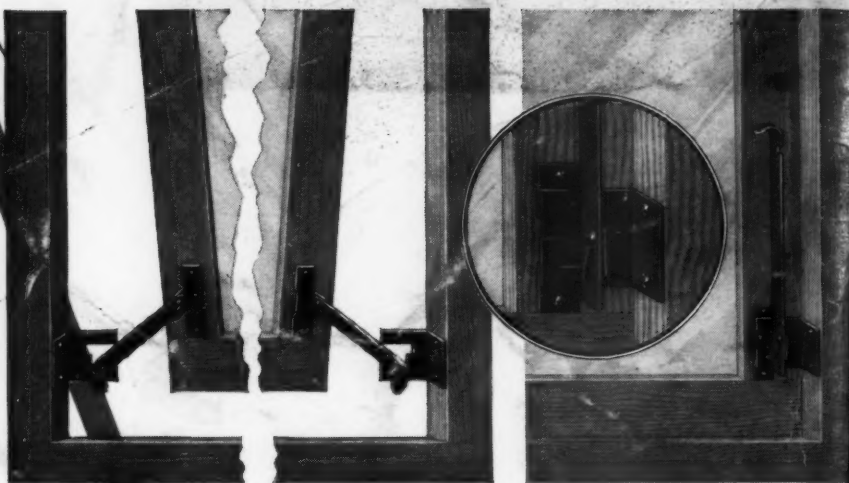

TRACKS AND HARDWARE OF SALT SPRAY STEEL

OVERHEAD DOOR CORPORATION
Hartford City, Indiana, U. S. A.

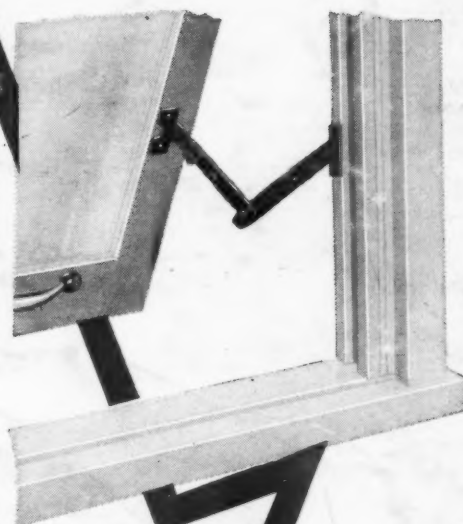
The **"OVERHEAD DOOR"**
TRADE MARK
WITH THE
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National No. 85 Storm Sash Adjuster is rattle-proof and holds window open securely. Locks storm sash in closed position as shown in illustration. Two sizes, 5-inch and 10-inch. Made entirely of steel. Packed one right and one left as a pair in an envelope, with 1x7 screws, complete with instructions for attaching.

National No. 86 Nois-Less Storm Sash Adjuster holds screen or storm sash firmly and silently in any desired position. Made of heavy gauge cold-rolled steel and has a solid-brass disengaging lock. The friction washers are moisture-proof.



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